

Draft Environmental Impact Report/Environmental Impact Statement

# Rio del Oro Specific Plan Project

State Clearinghouse #2003122057



**Volume I: DEIR/DEIS Text**

Prepared for:  
City of Rancho Cordova  
and  
U.S. Army Corps of Engineers,  
Sacramento District

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December 8, 2006

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**Rio del Oro Specific Plan Project**  
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**Volume I: DEIR/DEIS Text**

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December 8, 2006



# DRAFT ENVIRONMENTAL IMPACT REPORT/ DRAFT ENVIRONMENTAL IMPACT STATEMENT

Rio del Oro Specific Plan Project

Sacramento County, California

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## ABSTRACT

This joint Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) documents the analysis of the potential effects of implementing each of five alternative scenarios for a mixed-use development in the approximately 3,828-acre Rio del Oro Specific Plan area, in the City of Rancho Cordova, Sacramento County, California. This abstract is provided in compliance with National Environmental Policy Act (NEPA) requirements. The EIR/EIS documents the existing condition of environmental resources in and around areas considered for development, and potential impacts on those resources as a result of implementing the alternatives. The alternatives considered in detail are: (1) Proposed Project (Applicants' Preferred Alternative); (2) High Density (Increased Densities Consistent with Sacramento Area Council of Governments Blueprint); (3) Impact Minimization; (4) No Federal Action (No Section 404 of the Clean Water Act Permit); and (4) No Project/No Action.

The DEIR/DEIS for the Rio del Oro Specific Plan Project is available for public comment and review 60 days from the date of publication of the notice of availability in the Federal Register. A copy can also be found on the Internet at <http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/index.html>.

**Your written comments must be postmarked 60 days from the date of publication of the notice of availability in the Federal Register. The notice of availability is expected to be published in the Federal Register on December 8, 2006.** Please submit and address your written comments to the individuals noted above by **February 5, 2007**.

## NOTE TO REVIEWER

Reviewers should provide EDAW or the U.S. Army Corps of Engineers (USACE), the NEPA lead agency, with their comments during the review period of the DEIR/DEIS. This will enable USACE to analyze and respond to the comments at one time and to use the information acquired in preparation of the Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS), thus avoiding undue delay in the decision making process. Reviewers have an obligation to structure their participation in the NEPA process so that it is meaningful and alerts the agency to reviewers' positions and contentions. *Vermont Yankee Power Corp. v. NRDC*, 435 U.S. 519, 533 (1978). Environmental objections that could have been raised at the draft stage may be waived if not raised until after completion of the FEIS. *City of Angoon v. Hodel* (9th Circuit, 1986) and *Wisconsin Heritages, Inc. v. Harris*, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Comments on the DEIS should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

# TABLE OF CONTENTS

Chapter/Section	Page
<b>Volume I: DEIR/DEIS</b>	
<b>Executive Summary</b> .....	ES-1
ES.1 Introduction .....	ES-1
ES.2 Lead Agencies .....	ES-1
ES.3 Type of Environmental Impact Report/Environmental Impact Statement.....	ES-1
ES.4 Requested Entitlements .....	ES-1
ES.5 Project Characteristics .....	ES-2
ES.6 Summary of Significant Impacts and Mitigation Measures .....	ES-3
ES.7 Alternatives .....	ES-3
ES.8 Known Areas of Controversy .....	ES-3
ES.9 Public Participation and Additional Steps in the CEQA/NEPA Review Process .....	ES-5
<b>1 Introduction and Statement of Purpose and Need</b> .....	1-1
1.1 Project Requiring Environmental Analysis .....	1-1
1.2 Project History and Planning Context .....	1-2
1.3 Project Purpose, Need, and Objectives.....	1-3
1.4 Intended Uses and Type of Environmental Impact Report/Environmental Impact Statement.....	1-5
1.5 Scope and Focus of the Environmental Impact Report/Environmental Impact Statement .....	1-7
1.6 Agency Roles and Responsibilities .....	1-8
1.7 Public Participation and Additional Steps in the CEQA/NEPA Review Process .....	1-10
1.8 Organization of this Environmental Impact Report/Environmental Impact Statement.....	1-11
1.9 Documents Relied on in Preparation of the Environmental Impact Report/ Environmental Impact Statement .....	1-12
1.10 Standard Terminology, Acronyms, and Abbreviations .....	1-14
<b>2 Alternatives</b> .....	2-1
2.1 Introduction .....	2-1
2.2 CEQA/NEPA Requirements for Evaluation of Alternatives.....	2-1
2.3 Proposed Project/Action.....	2-4
2.4 High Density Alternative.....	2-57
2.5 Impact Minimization Alternative .....	2-58
2.6 No Federal Action Alternative .....	2-63
2.7 No Project Alternative.....	2-64
2.8 Off-Site Alternatives .....	2-71
2.9 Reduced Preserve Alternative .....	2-79
2.10 Increased Preserve/No Regional Town Center Alternative.....	2-79
2.11 Significant Traffic Impact Avoidance Alternative .....	2-81
2.12 Environmentally Superior Alternative .....	2-82
<b>3 Affected Environment, Environmental Consequences, and Mitigation Measures</b> .....	3-1
3.0 Approach to the Environmental Analysis.....	3-1
3.1 Land Use .....	3.1-1
3.2 Population, Employment, and Housing.....	3.2-1
3.3 Environmental Justice .....	3.3-1
3.4 Drainage, Hydrology, and Water Quality.....	3.4-1
3.5 Utilities and Services Systems .....	3.5-1

## TABLE OF CONTENTS (continued)

Chapter/Section	Page
3.6 Public Services .....	3.6-1
3.7 Geology, Soils, and Mineral Resources .....	3.7-1
3.8 Paleontological Resources.....	3.8-1
3.9 Cultural Resources .....	3.9-1
3.10 Biological Resources .....	3.10-1
3.11 Visual Resources .....	3.11-1
3.12 Parks and Recreation .....	3.12-1
3.13 Hazards and Hazardous Materials .....	3.13-1
3.14 Traffic and Transportation.....	3.14-1
3.15 Air Quality.....	3.15-1
3.16 Noise.....	3.16-1
<b>4 Other Statutory Requirements.....</b>	<b>4-1</b>
4.1 Cumulative Impact Methodology, Contributing Projects, List of Related Projects, and Context .....	4-1
4.2 Growth-Inducing Impacts.....	4-12
4.3 Irreversible and Irrecoverable Commitment of Resources .....	4-19
4.4 Relationship between Short-Term Use of the Environment and the Maintenance and Enhancement of Long-Term Productivity .....	4-19
4.5 Unavoidable and Adverse Environmental Effects.....	4-20
<b>5 References and Organizations and Persons Consulted.....</b>	<b>5-1</b>
<b>6 Report Preparers .....</b>	<b>6-1</b>
<b>7 Index .....</b>	<b>7-1</b>

### Technical Appendices

#### Volume II

- A Initial Study
- B Scoping Report for the Rio del Oro Development Project
- C Proposed Draft Wetland Mitigation and Monitoring Plan and  
Valley Elderberry Longhorn Beetle Mitigation Plan
- D Rio del Oro Specific Plan Project Amended Water Supply Assessment
- E Rio del Oro Habitat Assessment
- F Consistency of the Rio del Oro Project with the City of Rancho Cordova General Plan

#### Volume III

- G Draft Historic Building and Structures Inventory
- H Native American Consultation
- I Additional Traffic Analysis Scenarios
- J Projected Traffic Volume Changes with International Drive Realignment
- K Air Quality Assumptions and Modeling Data
- L Rio del Oro Air Quality and Emissions Reduction Plan
- M Traffic Noise Measurements

## TABLE OF CONTENTS (continued)

### Exhibits

2-1	Regional Location .....	2-5
2-2	Local Project Setting .....	2-6
2-3	Project Vicinity Map .....	2-7
2-4	Proposed Project Alternative Land Use Plan .....	2-9
2-5	Draft Lotting Plan for NEPA Project-Level Review .....	2-11
2-6a	On-Site Drainage System .....	2-17
2-6b	Off-Site Drainage System.....	2-19
2-7	Rio del Oro Culvert Crossing Design.....	2-23
2-8	Typical Con-Span Design Detail.....	2-24
2-9a	On-Site Water Supply Facilities.....	2-27
2-9b	Off-Site Water Supply Facilities, Full Project Build-out .....	2-29
2-9c	Off-Site Water Supply Facilities, Phase 1 .....	2-31
2-10a	On-Site Sewer Facilities .....	2-35
2-10b	Existing Sewersheds and Off-Site Sewer Facilities .....	2-37
2-10c	Interim Sewer Facilities.....	2-39
2-11	Draft Electrical Facilities Plan.....	2-43
2-12	Roadway Circulation Plan.....	2-45
2-13	Bikeway and Trails Plan.....	2-47
2-14	Phasing Plan .....	2-49
2-15	Proposed Rio del Oro Combined High School/Middle School Conceptual Site Plan .....	2-53
2-16	High Density Alternative Land Use Plan .....	2-59
2-17	Impact Minimization Alternative Land Use Plan.....	2-61
2-18	No Federal Action Alternative .....	2-65
2-19	Aggregate Mining Locations.....	2-68
2-20	Habitat Types at the Off-Site Alternative – Southeast Site .....	2-73
2-21	Habitat Types at the Off-Site Alternative – Northwest Site.....	2-75
3.1-1	SACOG Preferred Blue Print Scenario .....	3.1-11
3.1-2	City of Rancho Cordova General Plan Land Use Map .....	3.1-16
3.4-1	Awareness Floodplain Map.....	3.4-2
3.4-2	Watersheds in the Project Area .....	3.4-5
3.7-1	Geologic Formations .....	3.7-2
3.7-2	Project Site Soil Types .....	3.7-7
3.9-1	Area of Increased Sensitivity for Cultural Resources .....	3.9-4
3.9-2	Historic Sites .....	3.9-7
3.10-1	Habitat Types at the Rio del Oro Project Site .....	3.10-3
3.10-2	CNDDDB Special-Status Wildlife Occurrences within 3 Miles of Rio del Oro Project Site .....	3.10-15
3.10-3	Proposed Preserves at the Rio del Oro Project Site.....	3.10-23

## TABLE OF CONTENTS (continued)

### Exhibits

3.11-1	Viewpoint Locations .....	3.11-2
3.11-2	Representative Photographs of On-Site Features .....	3.11-3
3.11-3	Representative Photographs of On-Site Features .....	3.11-4
3.11-4	Representative Photographs of On-Site and Off-Site Features .....	3.11-5
3.11-5	Representative Photographs of On-Site and Off-Site Features .....	3.11-6
3.11-6	Representative Photographs of On-Site and Off-Site Features .....	3.11-7
3.12-1	Existing and Proposed Park and Recreation Facility Locations .....	3.12-3
3.13-1	Map of Areas Subject to Remedial Investigation and Feasibility Study (RI/FS).....	3.13-3
3.13-2	Groundwater Study Area.....	3.13-13
3.14-1	Existing Roadway Network.....	3.14-3
3.14-2	Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Existing Conditions .....	3.14-9
3.14-3	Average Daily Traffic Volumes – Existing Conditions .....	3.14-11
3.14-4	Existing Transit Service .....	3.14-12
3.14-5a	Number of Lanes – Baseline Conditions.....	3.14-27
3.14-5b	Number of Lanes – Cumulative (2030) Conditions .....	3.14-28
3.14-6	City of Rancho Cordova Circulation Element Plan Roadway Network.....	3.14-29
3.14-7	Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Baseline No Project Conditions.....	3.14-33
3.14-8	Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Baseline Plus Phase 1 Conditions.....	3.14-35
3.14-9	Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Baseline Plus Full Buildout Conditions .....	3.14-37
3.14-10	Average Daily Traffic Volumes, Baseline Plus Phase 1 Conditions.....	3.14-39
3.14-11	Average Daily Traffic Volumes, Baseline Plus Full Buildout Conditions.....	3.14-41
3.14-12	Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Cumulative No Project Conditions.....	3.14-81
3.14-13	Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Cumulative Plus Full Buildout Conditions.....	3.14-83
3.14-14	Average Daily Traffic Volumes – Cumulative Plus Full Buildout Conditions.....	3.14-85
3.16-1	Typical Noise Levels.....	3.16-2
3.16-2	Adopted Mather Airport Land Use Compatibility Plan Noise Contours (1997).....	3.16-6
3.16-3	Proposed Mather Airport Land Use Compatibility Plan Noise Contours (2005).....	3.16-7
4-1	Proposed and Approved Development in the Project Vicinity.....	4-3
4-2	Related Projects Used in the Cumulative Impact Analysis .....	4-5

## TABLE OF CONTENTS (continued)

### Tables

ES-1	Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration .....	ES-8
1-1	Acronyms and Other Abbreviations .....	1-14
2-1	Acres of Proposed Rio del Oro Project Land Uses by Specific Plan Development Phase.....	2-14
2-2	Waters of the United States and Wetlands at the Project Site .....	2-22
2-3	Rio del Oro Off-Site Infrastructure Improvements .....	2-26
2-4	Acreage of Proposed Rio del Oro Specific Plan Land Uses—Development Phase 1 .....	2-51
2-5	Project Site Improvements for Rio del Oro Specific Plan Development Phase 1 .....	2-54
2-6	Summary Comparison of Residential Development under the High Density Alternative and the Proposed Project Alternative .....	2-58
2-7	Summary Comparison of Commercial and Industrial Development under the High Density Alternative and the Proposed Project Alternative .....	2-58
2-8	Summary Comparison of Residential Development under the Impact Minimization Alternative and the Proposed Project Alternative .....	2-63
2-9	Summary Comparison of Commercial and Industrial Development under the Impact Minimization Alternative and the Proposed Project Alternative .....	2-63
2-10	Summary Comparison of Residential Development under the No Federal Action Alternative and the Proposed Project Alternative .....	2-64
2-11	Summary Comparison of Commercial and Industrial Development under the No Federal Action Alternative and the Proposed Project Alternative .....	2-64
2-12	Summary of Potential Impacts from Ongoing Mining Activities for the Approved Grantline West and Aerojet Mining Amendment Conditional Use Permits under the No Project Alternative.....	2-69
2-13	Natural Community Types at the Southeast Off-Site Alternative Location.....	2-77
2-14	Natural Community Types at the Northwest Off-Site Alternative Location.....	2-77
2-15	Roadway Segment Significant Impacts—Cumulative (Year 2030) Conditions .....	2-81
2-16	Comparative Summary of Characteristics of the Proposed Project and the Three Action Alternatives .....	2-82
2-17	Comparison of Impacts of the Proposed Project After Mitigation Implementation to those of the Alternatives Under Consideration .....	2-83
3.1-1	Rancho Cordova General Plan Land Use Designations for the Project Site and Adjacent Lands .....	3.1-17
3.1-2	Proposed Rio del Oro Specific Plan Land Use and Zoning Designations.....	3.1-19
3.2-1	City of Rancho Cordova Regional Housing Needs Allocation for 2000–2007.....	3.2-2
3.2-2	Historical and Projected Jobs/Housing Balance for Sacramento County (1990–2025) .....	3.2-3
3.2-3	Historic and Projected Jobs/Housing Balance for the City of Rancho Cordova (1990–2025).....	3.2-4
3.2-4	Rio del Oro Project Residential Population Projections (Program) .....	3.2-9
3.2-5	Rio del Oro Project Residential Population Projections (Phase 1).....	3.2-13
3.2-6	Existing, Proposed, and Approved Development in the City of Rancho Cordova and its Planning Areas for Buildout in 2030 .....	3.2-16
3.3-1	Poverty Statistics within 6 Miles of the Project Site .....	3.3-5
3.3-2	Race Statistics within 6 Miles of the Project Site.....	3.3-7

## TABLE OF CONTENTS (continued)

### Tables

3.4-1	Folsom South Canal Crossings—Contributing Area, Capacity, and Peak Flows .....	3.4-3
3.4-2	Watersheds that Contribute Flow through the Project Site .....	3.4-4
3.4-3	Water Quality Summary for Morrison Creek Samples .....	3.4-8
3.4-4	Existing and Projected Peak Flows at Folsom South Canal Crossings under the Rio del Oro Project ....	3.4-19
3.5-1	SCWA Zone 40 Current and Projected Water Demands .....	3.5-2
3.5-2	Summary of Program Level Land Use and Water Demands, Proposed Project Alternative .....	3.5-12
3.5-3	Summary of Program Level Land Use and Water Demands, High Density Alternative .....	3.5-13
3.5-4	Summary of Program Level Land Use and Water Demands, Impact Minimization Alternative.....	3.5-13
3.5-5	Summary of Program Level Land Use and Water Demands, No Federal Action Alternative.....	3.5-14
3.5-6	Normal-Year Comparison of Water Supply and Demand (AFY) .....	3.5-15
3.5-7	Dry-Year Comparison of Water Supply and Demand (AFY) .....	3.5-15
3.5-8	American River Deliveries .....	3.5-41
3.5-9	American River Deliveries to CVP Customers .....	3.5-41
3.6-1	Folsom Cordova Unified School District Enrollment, 2003–2004 .....	3.6-3
3.6-2	Student Yield Generation Rates for the Rancho Cordova School Facility Improvement District .....	3.6-4
3.7-1	Faults Active in Holocene Time in the Vicinity of the Project Site .....	3.7-3
3.7-2	Soil Mapping Unit Identified by Project Development Phase .....	3.7-6
3.7-3	Soil Mapping Unit Descriptions.....	3.7-9
3.7-4	California Division of Mines and Geology Mineral Land Classification System.....	3.7-14
3.9-1	Inventory of Historic Sites and Buildings at the Project Site .....	3.9-5
3.10-1	Special-Status Plant Species Known to Occur or with Potential to Occur on the Project Site .....	3.10-8
3.10-2	Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site .....	3.10-9
3.12-1	Existing Cordova Recreation & Park District Facilities and Services .....	3.12-5
3.12-2	CRPD Classification of Mini, Neighborhood, and Community Parks and their Standards .....	3.12-7
3.12-3	Project Parkland Acreage Calculations .....	3.12-9
3.12-4	Development Phase 1 Parkland Acreage Calculations.....	3.12-12
3.13-1	Summary of Primary Study Areas, Primary Constituents of Concern, and Regulatory and Investigation Status on the Rio del Oro Project Site .....	3.13-12
3.14-1	Locations of Detailed Traffic Analyses.....	3.14-4
3.14-2	Intersection Levels of Service—Existing Conditions .....	3.14-8
3.14-3	Roadway Levels of Service—Existing Conditions .....	3.14-14
3.14-4	Levels of Service for Freeway-Ramp Merge, Diverge, and Weave Maneuvers—Existing Conditions .....	3.14-15
3.14-5	Level-of-Service Definitions for Intersections .....	3.14-19
3.14-6	Daily Volume Thresholds for Roadway Segments .....	3.14-22
3.14-7	Definitions of Intersection Levels of Service .....	3.14-23

## TABLE OF CONTENTS (continued)

### Tables

3.14-8	Definitions of Freeway-Ramp Merge/Diverge Levels of Service .....	3.14-24
3.14-9	Rio del Oro Vehicle-Trip Generation Summary .....	3.14-30
3.14-10	Intersection Levels of Service—Baseline Conditions .....	3.14-43
3.14-11	Roadway Segment Levels of Service—Baseline Conditions .....	3.14-45
3.14-12	Merge/Diverge/Weave Levels of Service—Baseline Conditions .....	3.14-47
3.14-13	Intersection Levels of Service—Cumulative (2030) Conditions.....	3.14-87
3.14-14	Roadway Segment Levels of Service—Cumulative (2030) Conditions .....	3.14-91
3.14-15	Merge/Diverge/Weave Levels of Service—Cumulative Conditions .....	3.14-95
3.15-1	Ambient Air Quality Standards and Designations .....	3.15-3
3.15-2	Summary of Annual Ambient Air Quality Data (2003–2005) .....	3.15-8
3.15-3	Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions for Phase 1—Proposed Project Alternative .....	3.15-39
3.15-4	Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions for Phase 1—High Density Alternative .....	3.15-40
3.15-5	Summary of Modeled Worst-Case Year Short-Term Construction-Generated Emissions for Phase 1—Impact Minimization Alternative .....	3.15-41
3.15-6	Summary of Modeled Long-Term Operational Emissions for Phase 1— Proposed Project Alternative .....	3.15-43
3.15-7	Summary of Modeled Long-Term Operational Emissions for Phase 1— High Density Alternative.....	3.15-44
3.15-8	Summary of Modeled Long-Term Operational Emissions for Phase 1— Impact Minimization Alternative .....	3.15-45
3.15-9	Summary of Modeled CO Concentrations for Baseline and Baseline Plus Phase 1 Development Conditions (Year 2014)—Proposed Project Alternative .....	3.15-47
3.16-1	Daytime Ambient-Noise Levels .....	3.16-4
3.16-2	Summary of Modeled Existing Traffic Noise Levels.....	3.16-8
3.16-3	State of California Noise Compatibility Guidelines by Land Use Category .....	3.16-11
3.16-4	Performance Standards for Typical Stationary Noise Sources— Rancho Cordova General Plan Noise Element.....	3.16-12
3.16-5	Performance Standards for Stationary Noise Sources that Are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music— Rancho Cordova General Plan Noise Element.....	3.16-12
3.16-6	Maximum Allowable Noise Exposure, Transportation Noise Sources— Rancho Cordova General Plan Noise Element.....	3.16-12
3.16-7	City of Rancho Cordova Noise Control Ordinance Standards .....	3.16-14
3.16-8	Construction Equipment Noise Levels .....	3.16-16
3.16-9	Summary of Modeled Cumulative (Year 2030) Traffic Noise Levels .....	3.16-25
3.16-10	Summary of Measurements of Single-Event Aircraft Noise .....	3.16-33
3.16-11	Summary of Modeled Baseline (Year 2014) Traffic Noise Levels .....	3.16-36
4-1	Related Projects in the City of Rancho Cordova and Nearby Sacramento County .....	4-7
4-2	Summary of Project-Related Significant and Unavoidable Impacts .....	4-21

# EXECUTIVE SUMMARY

## ES.1 INTRODUCTION

This executive summary highlights the major areas of importance in the environmental analysis for the proposed Rio del Oro Specific Plan project, as required by Section 15123 of the California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) and 40 Code of Federal Regulations (CFR) Section 1502.12 of the National Environmental Policy Act (NEPA). As stated in Section 15123(a) of the State CEQA Guidelines, “[a]n EIR shall contain a brief summary of the proposed action and its consequences. The language of the summary should be as clear and simple as reasonably practical.” As stated in NEPA Section 1502.12, “each environmental impact statement shall contain a summary which adequately and accurately summarizes the statement. The summary shall stress the major conclusions, areas of controversy (including issues raised by agencies and the public), and the issues to be resolved (including the choice among alternatives).” As required by the State CEQA Guidelines and NEPA regulations, this executive summary includes (1) a summary description of the proposed project, (2) a synopsis of environmental impacts and recommended mitigation measures (Table ES-1), (3) identification of the alternatives evaluated, and (4) a discussion of the areas of controversy associated with the project. For additional detail regarding specific issues, please consult Chapter 2, “Alternatives”; Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures”; and Chapter 4, “Other Statutory Requirements.”

## ES.2 LEAD AGENCIES

This document is a joint draft environmental impact report/draft environmental impact statement (DEIR/DEIS) prepared for the Rio del Oro Specific Plan project (the “proposed action” for purposes of NEPA and the “proposed project” for purposes of CEQA, hereinafter referred to as “the project”).

The City of Rancho Cordova (City) is the lead agency for the project under CEQA, and the U.S. Army Corps of Engineers (USACE), Sacramento District, is the federal lead agency under NEPA.

## ES.3 TYPE OF ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT

This EIR/EIS contains both program-level and project-level components. Phase 1 (Elliott Homes) includes relatively precise development plans, so it may be evaluated at a detailed project-level analysis. The remaining phases, Phases 2–5 (GenCorp Realty Investments [GenCorp]), may require further environmental analysis and additional agency approvals following adoption of the specific plan when tentative maps are submitted, particularly if site-specific issues peculiar to certain parcels were not addressed at the broader program level of analysis found in this document.

## ES.4 REQUESTED ENTITLEMENTS

Elliott Homes and GenCorp (hereinafter referred to as “the project applicant[s]”) are seeking approval of various discretionary approvals in support of a specific plan. The following entitlements are requested from the City for the project:

- ▶ adoption and implementation of the specific plan,
- ▶ adoption of a public facilities financing plan,
- ▶ adoption of a public facilities infrastructure/phasing plan,
- ▶ approval of the Phase 1 tentative subdivision map, and
- ▶ approval of a development agreement between the City and the project applicant(s).

The project applicant(s) are also seeking from USACE an individual permit, pursuant to Section 404 of the Clean Water Act, for the proposed discharge of dredged or fill material into 30.33 acres of waters of the United States.

In addition to the authorizations and approvals requested from the City and USACE, permits and other approval actions from the following federal, state, regional, and local agencies may be required:

- ▶ U.S. Environmental Protection Agency
- ▶ U.S. Fish and Wildlife Service
- ▶ California Department of Education
- ▶ California Department of Fish and Game
- ▶ California Department of Transportation
- ▶ Central Valley Regional Water Quality Control Board (Region 5)
- ▶ Sacramento County Local Agency Formation Commission
- ▶ Sacramento Metropolitan Air Quality Management District

## **ES.5 PROJECT CHARACTERISTICS**

### **ES.5.1 PROJECT LOCATION**

The project site is located in eastern Sacramento County, south of U.S. Highway 50, within the city of Rancho Cordova (see Exhibits 2-1, 2-2, and 2-3). The property is located south of White Rock Road, north of Douglas Road, and east of Sunrise Boulevard.

### **ES.5.2 ELEMENTS OF THE PROJECT**

The Rio del Oro project would permit a mixed-use development on approximately 3,828 acres in Rancho Cordova. Elliott Homes is seeking specific development entitlements (e.g., tentative subdivision maps) as part of the project. GenCorp is seeking overall development entitlements, but has not proposed specific development entitlements necessary for immediate or short-term development as part of this proposal.

Buildout of the project would be split into five phases and is anticipated to occur over a 25- to 30-year period. The project provides for construction of approximately 11,601 residential dwelling units in three residential land use classifications on 1,920 acres. Commercial land uses would include Village Commercial, Local Town Center, and Regional Town Center (totaling 153 acres of shopping centers); Business Park (86 acres); and Industrial Park (282 acres). Various neighborhood parks totaling 63 acres would be developed. There would also be 54 acres of Private Recreation land uses, 9.5 acres of Public/Quasi Public Use, 44 acres of Landscape Corridor, and 50 acres of Greenbelt land uses. Two elderberry preserve areas, consisting of 10 acres and 14 acres, respectively, have been designated on the project site in areas with the greatest concentration of elderberry shrubs. In addition to 155 acres of drainage parkways, 39 acres of stormwater detention basins would be created in three separate locations. A 507-acre wetland preserve area is also proposed in the southern portion of the project site. Designated school uses include a combined high school/middle school (78 acres) with an adjacent 87-acre community park, a separate middle school (20 acres), and six elementary schools (54 acres). The project also includes new water, sewer, electrical, natural gas, and telecommunications services. Approximately 227 acres of roadways and associated landscaping, along with a network of bicycle and pedestrian trails, would be constructed. In addition, the project includes various on- and off-site infrastructure improvements.

Information regarding the location, design, and operation of the various project components is presented in detail in Chapter 2, "Alternatives."

## **ES.6 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

Table ES-1 displays a summary of significant impacts and proposed mitigation measures that would avoid, eliminate, minimize, or reduce potential impacts. In the table, the level of significance of the impact following implementation of each mitigation measure is identified. Effects that would occur under each alternative development scenario on Table ES-1 are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), NP (No Project). In Table ES-1 the impact and its significance conclusion is followed by the mitigation requirement. For detailed descriptions of project impacts and mitigation measures, please see Sections 3.1 through 3.16 in Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures.”

## **ES.7 ALTERNATIVES**

The State CEQA Guidelines (Section 15126.6) and the NEPA Council on Environmental Quality (CEQ) Regulations (40 CFR 15012.14) require that an EIR/EIS describe a range of reasonable alternatives to the proposed project that could feasibly attain the basic objectives of the project and avoid and/or lessen the environmental effects of the project. Chapter 2 of this DEIR/DEIS provides a comparative analysis between the proposed project/action (i.e., the Proposed Project/Proposed Action Alternative, hereinafter referred to as the “Proposed Project Alternative”), a High Density Alternative, and an Impact Minimization Alternative. The No Project Alternative (hereinafter referred to as the “No Project Alternative”) as required under CEQA and NEPA and a No Federal Action Alternative as required by USACE under NEPA is also evaluated in Chapter 2.

### **ES.7.1 HIGH DENSITY ALTERNATIVE**

This alternative was designed to further embrace the concept of “Smart Growth.” Under Smart Growth principles, areas that are planned for development are developed at higher densities. Although these higher densities may result in greater localized impacts on resources, the overall area of disturbance is reduced by concentrating development in particular locations. The High Density Alternative envisions a greater density of residential development on a footprint similar to that of the Proposed Project Alternative, resulting in more residential dwelling units per acre. The total acreage of residential development would be the same, but the density would be increased such that approximately 3,800 additional residential units would be constructed. The acreage of commercial and industrial development as well as the wetland preserve would be the same. The types of land uses would remain the same as under the Proposed Project Alternative.

### **ES.7.2 IMPACT MINIMIZATION ALTERNATIVE**

This alternative was formulated to reduce environmental impacts, while still meeting some of the project goals and objectives. Under the Impact Minimization Alternative, project components would be reconfigured on the project site so as to reduce impacts on waters of the United States, including wetlands and high-quality biological habitat. Under this alternative, the level of residential development would be decreased such that the amount of project-generated traffic, air quality emissions, and noise would be reduced. An additional 485 acres in the southern portion of the project site would be designated as part of the wetland preserve. Thus, a total of 994.5 acres, approximately 25% of the project site, would become a protected wetland preserve. The total acreage of residential development would be reduced by approximately 470 acres and approximately 1,040 fewer residential units would be constructed, although overall density would increase (a greater proportion of residential acreage would be developed with medium and high density). Commercial and industrial development sites would be reduced by approximately 30 acres.

### **ES.7.3 NO FEDERAL ACTION ALTERNATIVE**

This alternative was designed to allow some development of the project site while avoiding the placement of dredged or fill material into waters of the United States, thus eliminating the need for a USACE Section 404 permit. A land use map showing development areas and jurisdictional wetlands with a 50-foot avoidance buffer is

provided on Exhibit 2-19 in chapter 2 of this DEIR/DEIS. Under this alternative, 872 acres of the project site would be designated “Natural Resources” under the City of Rancho Cordova’s General Plan. Land with this use designation is set aside as natural habitat with no urban development. Open space trails would be located adjacent to areas designated as Natural Resources and the City of Rancho Cordova would prohibit public access into the area. The types of land uses would remain the same as under the Proposed Project Alternative.

#### **ES.7.4 No Project Alternative**

Under the No Project Alternative, the project would not be developed, and the majority of the project site would remain under the jurisdiction of the City. The No Project Alternative assumes that aggregate mining operations to remove portions of the existing dredge tailings at the project site would continue under existing Conditional Use Permits—one originally issued by the County of Sacramento (County), and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City.

Aggregate mining operations are not part of the Rio del Oro project. This is an unlikely long-term alternative for the Rio del Oro project site because, according to the Land Use Map Book for the *City of Rancho Cordova Draft General Plan*, it is located in an area planned for urban development. Entitlements are actively being sought for development in the vicinity of the project site, and infrastructure planning is also occurring for the area. The No Project Alternative would not meet the purpose, need, or objectives of the proposed Rio del Oro project as described in Chapter 1 of this DEIR/DEIS.

#### **ES.7.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

The State CEQA Guidelines require identification of an environmentally superior alternative from among the proposed project and the alternatives evaluated. If the No Project Alternative is environmentally superior, CEQA requires identification of the “environmentally superior alternative” other than the No Project Alternative from among the proposed project and the alternatives evaluated. Federal NEPA guidelines also recommend that an environmentally preferred alternative be identified; however, under NEPA, that alternative does not need to be identified until the final record of decision is published. Therefore, the discussion in this section of the environmentally superior alternative is intended to satisfy only the state CEQA requirements.

The No Project Alternative would have the fewest environmental impacts of the alternatives under consideration, and therefore would be considered environmentally superior. The following discussion identifies the environmentally superior alternative among the four action alternatives (Proposed Project, Impact Minimization, High Density, and No Federal Action) carried forward with an equal level of detailed analysis in the EIR/EIS.

The No Federal Action Alternative would result in potentially significant impacts related to land use, drainage, hydrology, and water quality, which are greater than impacts that would occur under the Proposed Project, Impact Minimization, and High Density Alternatives. While this alternative would reduce direct impacts on some biological resources such as vernal pools, the No Federal Action Alternative would not avoid indirect, potentially significant, and significant impacts related to biological resources. This alternative would also result in more significant and unavoidable traffic and transportation impacts than would occur under the other three action alternatives. Therefore, among the four action alternatives, the No Federal Action Alternative would have the greatest level of adverse impacts on the environment.

The High Density Alternative would provide certain long-term benefits to the environment by locating a higher density of residential housing in the same mixed-use community where job opportunities would be provided, thus reducing development pressure on other undeveloped lands in the surrounding area. However, by using land more efficiently in dealing with projected long-term population increases in the greater Sacramento region, the High Density Alternative, compared to the Proposed Project Alternative, could lead to the preservation of approximately 500 more acres of land that would otherwise be lost to development over time; it would also provide 3,887 additional residential units. This long-term avoidance of development would likely have the effect of reducing impacts that would otherwise occur with a more traditional, lower density footprint. However, in

general, the High Density Alternative would have a greater level of impacts on the environment than the Proposed Project Alternative or the Impact Minimization Alternative because land would be developed at a higher level of intensity; thus, more residential housing, retail and commercial development, roadways, schools, fire and police services, and demand for water, sewer, and other infrastructure would be necessary, and a greater level of impacts to biological resources would occur.

The Impact Minimization Alternative would have a lesser level of impacts on the environment than any of the other action alternatives, including the Proposed Project Alternative, because nearly 500 fewer acres of land would be developed, which would be made part of a managed wetland preserve, and the land would be developed a lower level of intensity. Although impacts would still be significant, this alternative would result in the lowest level of significant impacts among the four action alternatives related to demand for water and wastewater infrastructure; construction-related erosion; loss and degradation of jurisdictional wetlands and other waters of the United States, riparian habitat, special-status wildlife, special-status plants, and associated habitat; degradation of visual character and new skyglow and light and glare effects; increases to traffic volumes and temporary obstruction of roadways during construction; generation of short-term and long-term pollutant emissions; and exposure to on-site and off-site noise sources.

Although both the High Density and Impact Minimization Alternatives would preserve approximately 500 acres of land, the Impact Minimization Alternative would be developed at a lesser intensity than the High Density Alternative and would thus result in less impacts on the environment overall.

Thus, among the four action alternatives carried forward for analysis in this DEIR/DEIS, the Impact Minimization Alternative would be the environmentally superior alternative for CEQA purposes.

## **ES.8 KNOWN AREAS OF CONTROVERSY**

Section 15123 of the State CEQA Guidelines and 40 CFR Section 1502.12 of the NEPA regulations require that a summary of an EIR/EIS identify areas of controversy known to the lead agency, including issues raised by agencies and the public. During the public comment period for the notice of preparation/notice of intent, various comment letters were received regarding the project. Appendix B of the DEIR/DEIS includes a summary of the public scoping process as well as summaries of the comments received in writing and at the public meetings held on February 26, 2004. In general, areas of potential controversy known to the City and the project applicant(s) include biological resources, circulation (traffic and alternative transportation methods), air quality, noise, land use concerns related to the location of the project site near Mather Airport, hydrology and water quality, hazardous materials, water supply, provision of public services, and provision of public utilities. These issues were considered in the preparation of this DEIR/DEIS and, where appropriate, are addressed in the environmental impact analyses presented in Chapters 3 and 4.

## **ES.9 PUBLIC PARTICIPATION AND ADDITIONAL STEPS IN THE CEQA/NEPA REVIEW PROCESS**

This DEIR/DEIS is being distributed to interested agencies, stakeholder organizations, and individuals. This distribution ensures that interested parties have an opportunity to express their views regarding the environmental effects of the project, and to ensure that information pertinent to permits and approvals is provided to decision makers for the lead agencies, NEPA cooperating agencies, and CEQA responsible agencies. 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. The DEIR/DEIS is being distributed for a 60-day review period that will end on February 5, 2007.

Written comments postmarked no later than February 5, 2007, should be sent to the following addresses:

Patrick Angell  
City of Rancho Cordova  
2729 Prospect Park Drive  
Rancho Cordova, CA 95670  
Fax: (916) 361-1574  
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Anna Sutton  
U.S. Army Corps of Engineers, Regulatory Branch  
1325 J Street, Room 1480  
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Fax: (916) 557-6877  
E-mail: Anna.M.Sutton@spk01.usace.army.mil

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.

A public hearing on the DEIR will be conducted by the City and USACE at 6 p.m. on January 11, 2007, at Rancho Cordova City Hall, 2729 Prospect Park Drive, Rancho Cordova. It is not necessary to provide testimony during the public hearing; comments on the DEIR/DEIS will be accepted throughout the meeting and will be recorded at the public comment table. Comments may also be submitted throughout the comment period as described above.

Once all comments have been assembled and reviewed, responses will be prepared to address significant environmental issues that have been raised in the comments. The responses will be included in an FEIR/FEIS.

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>3.1 LAND USE</b>					
<b>Program Level</b>					
<p><b>3.1-1: Consistency with Sacramento County LAFCo Guidelines for Annexation of the Project Site to SRCSD and CSD-1.</b> Annexation of the project site into the service area of SRCSD and CSD-1 would require approval by the County LAFCo before these districts could provide wastewater service to the project.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.1-2: Compatibility with the Mather Airport Land Use Compatibility Plan.</b> The Mather Airport CLUP prohibits new residential development in those areas subject to noise levels of 65 db CNEL or above.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.1-3: Conflict with the SACOG Sacramento Region Blueprint.</b> Project implementation could result in conflicts between the project and the SACOG Sacramento Region Preferred Blueprint Scenario.</p> <p><b>IM, NF, NP:</b> No feasible mitigation measures are available to reduce the conflict between the Impact Minimization, No Federal Action, and No Project Alternatives and the SACOG Preferred Blueprint Scenario to a less-than-significant level. The City would determine whether conflicts between the Impact Minimization, No Federal Action, and No Project Alternatives and Blueprint policies and assumptions may translate into potentially significant environmental effects. In determining whether any particular conflict translates into such an effect, the City would carefully consider whether implementation of the Impact Minimization, No Federal Action, or No Project Alternative, compared with implementation of a Blueprint-based plan, would yield either a lost opportunity to accomplish a long-term environmental benefit, or a lost opportunity to minimize a long term environmental impact (Public Resources Code Section 21001[g]). Therefore, this impact remains significant and unavoidable.</p> <p><b>PP, HD:</b> No mitigation measures are required.</p>	No Direct, No Indirect	No Direct, No Indirect	Direct & Indirect SU	Direct & Indirect SU	Direct & Indirect SU

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>Project Level (Phase 1)</b>					
<p><b>3.1-4: Compatibility with Sacramento County LAFCo Guidelines for Annexation of the Project Site to SRCSD and CSD-1.</b> Annexation of Phase 1 into the service area of SRCSD and CSD-1 would require approval by the County LAFCo before these districts could provide wastewater service to the project.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.1-5: Consistency with the Mather Airport Land Use Compatibility Plan.</b> The Mather Airport CLUP prohibits new residential development in those areas subject to noise levels of 65 dB CNEL or above.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.1-6: Conflict with the SACOG Sacramento Region Blueprint.</b> Implementation of development Phase 1 could result in conflicts between the project and the SACOG Sacramento Region Preferred Blueprint Scenario.</p> <p><b>IM, NF, NP:</b> For the same reasons as described for Impact 3.1-3 above, no feasible mitigation measures are available to reduce Impact 3.1-6 to a less-than-significant level under the Impact Minimization, No Federal Action, and No Project Alternatives. Refer to the mitigation discussion for Impact 3.1-3 for further discussion. This impact remains significant and unavoidable under the Impact Minimization, No Federal Action, and No Project Alternatives.</p> <p><b>PP, HD:</b> No mitigation measures are required.</p>	No Direct, No Indirect	No Direct, No Indirect	Direct & Indirect SU	Direct & Indirect SU	Direct & Indirect SU
<p><b>3.1-7: Potential Land Use Conflict with California Department of Education Minimum Site Criteria for Siting the Proposed Elementary School.</b> A combined elementary school is proposed as part of Phase 1 development. CDE minimum site criteria identify various factors that must be considered in selecting a school site to protect the health and safety of students and staff. Aggregate mining operations adjacent to the site and other factors may require additional assessment based on CDE's evaluation of the minimum site criteria.</p>	Direct impact may be SU, but no impact conclusion can be reached because additional studies are required; no Indirect				No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM, NF:</b> No feasible mitigation measures can be identified at this time as discussed below.</p> <p>Because a conceptual site plan was developed and provided by FCUSD, details of this school were available to conduct a project-specific analysis. However, no other conceptual site plans for the remaining designated school sites are available. Despite the absence of a school district as lead agency, the DEIR/DEIS discusses the elementary school site (for which a conceptual site plan was provided) because the project applicant(s) and the City, in identifying school sites within the Rio del Oro Specific Plan area, have tried to be cognizant of school siting requirements and criteria. The intent of analyzing the proposed elementary school was not for FCUSD to rely solely on the Rio del Oro Specific Plan EIR/EIS for project-level review of Phase 1 schools. Rather, the analysis was intended to identify potential issues with CDE criteria early in the planning process and expedite FCUSD's preparation of its site-specific environmental review document. The same would be true for the proposed elementary schools, although without conceptual site plans it is difficult to conduct a project-level analysis.</p> <p>The process for school site approval in California would also require DTSC and CDE to review the appropriate environmental documentation (for DTSC, the Phase I Environmental Site Assessment; for CDE, the DEIR/DEIS and applicable forms) to determine whether the proposed school site meets CDE siting criteria after their review. Often, CDE will require additional risk assessments as part of the site approval process; these risk assessments may identify portions of a site for which some types of use may be restricted to ensure student safety.</p> <p>In addition, DTSC could require FCUSD to conduct a PEA to identify specific risks and appropriate mitigation, based on the results of the Phase I Environmental Site Assessment. These additional levels of agency review and approval are outside the CEQA/National Environmental Policy Act (NEPA) process; although some of these determinations may take place before the EIR/EIS is certified, the process is separate and distinct from environmental review. CDE will not grant final site approval until site-level environmental review is completed.</p> <p>The risk assessments required under certain conditions may identify constraints within which the school district must work to obtain CDE approval of a site. If CDE requires additional assessments, the district would obtain and implement any identified mitigation to reduce risks or constraints at the site to an acceptable level as determined by CDE.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.1-8: Potential Land Use Conflict with California Department of Education Minimum Site Criteria for Siting the Proposed High School/Middle School.</b> A combined middle school/high school is proposed as part of development Phase 1. CDE minimum site criteria identify various factors that must be considered in selecting a school site to protect the health and safety of students and staff. Aggregate mining operations adjacent to the site and other factors may require additional assessment based on CDE's evaluation of the minimum site criteria.</p>	<p>Direct impact may be SU, but no impact conclusion can be reached because additional studies are required; no Indirect</p>		<p>No Direct, No Indirect</p>		
<p><b>PP, HD, IM, NF:</b> No feasible mitigation measures can be identified at this time for the reasons described below.</p>					

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1                  Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Because a conceptual site plan was developed and provided by FCUSD, details of this school were available to conduct a project-specific analysis. Despite the absence of a school district as lead agency, the DEIR/DEIS discusses the high school/middle school site because the project applicant(s) and the City, in identifying school sites within the Rio del Oro Specific Plan area, have tried to be cognizant of school siting requirements and criteria. The intent of analyzing the proposed high school/middle school was not for FCUSD to rely solely on the Rio del Oro Specific Plan EIR/EIS for project-level review of Phase 1 schools. Rather, the analysis was intended to identify potential issues with CDE criteria early in the planning process and expedite FCUSD's preparation of its site-specific environmental review document. The same would be true for the proposed elementary schools, although without conceptual site plans it is difficult to conduct a project-level analysis.</p> <p>The process for school site approval in California would also require DTSC and CDE to review the appropriate environmental documentation (for DTSC, the Phase I Environmental Site Assessment; for CDE, the DEIR/DEIS and applicable forms) to determine whether the proposed school site meets CDE siting criteria after their review. Often, CDE will require additional risk assessments as part of the site approval process; these risk assessments may identify portions of a site for which some types of use may be restricted to ensure student safety.</p> <p>In addition, DTSC could require FCUSD to conduct a PEA to identify specific risks and appropriate mitigation, based on the results of the Phase I Environmental Site Assessment. These additional levels of agency review and approval are outside the CEQA/NEPA process; although some of these determinations may take place before the EIR/EIS is certified, the process is separate and distinct from environmental review. CDE will not grant final site approval until site-level environmental review is completed.</p> <p>The risk assessments required under certain conditions may identify constraints within which the school district must work to obtain CDE approval of a site. If CDE requires additional assessments, the district would obtain and implement any identified mitigation to reduce risks or constraints at the site to an acceptable level as determined by CDE.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<b>3.2 POPULATION AND HOUSING</b>					
<b>Program Level</b>					
<p><b>3.2-1: Temporary Increase in Population and Housing Demand during Construction.</b> Project implementation would generate a temporary increase in employment and subsequent housing demand in Rancho Cordova from construction jobs.</p>					
	Direct & LTS; indirect impacts are addressed in each issue area as direct impacts.				No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.2-2: Increased Population Growth.</b> Project implementation would result in the development of new residential units, which would cause a direct increase in population.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS; indirect impacts are addressed in each issue area as direct impacts.				No Direct, No Indirect
<b>Project Level (Phase 1)</b>					
<p><b>3.2-3: Temporary Increase in Population and Housing Demand during Construction of Development Phase 1.</b> The project would generate a temporary increase in employment and subsequent housing demand in Rancho Cordova from construction jobs during the peak construction periods for development Phase 1.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS; indirect impacts are addressed in each issue area as direct impacts.				No Direct, No Indirect
<p><b>3.2-4: Increased Population Growth.</b> Development Phase 1 would include construction of new residential units, which would result in a direct increase in population.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS; indirect impacts are addressed in each issue area as direct impacts.				No Direct, No Indirect
<b>3.3 ENVIRONMENTAL JUSTICE</b>					
<b>Program Level</b>					
<p><b>3.3-1: Potential Effects on Low-Income Populations.</b> Project implementation would not create a disproportionate placement of adverse environmental impacts on low-income populations.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.3-2: Potential Effects on Minority Populations.</b> Project implementation would not create a disproportionate placement of adverse environmental impacts on minority communities.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>Project Level (Phase 1)</b>					
<p><b>3.3-3: Potential Effects on Low-Income Populations.</b> Implementation of development Phase 1 would not create a disproportionate placement of adverse environmental impacts on low-income populations.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.3-4: Potential Effects on Minority Populations.</b> Implementation of development Phase 1 would not create a disproportionate placement of adverse environmental impacts on minority communities.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>3.4 DRAINAGE, HYDROLOGY, AND WATER QUALITY</b>					
<b>Program Level</b>					
<p><b>3.4-1: Potential Increased Risk of Flooding from Increased Stormwater Runoff.</b> Project implementation would increase the amount of impervious surface on the project site, thereby increasing surface runoff. This increase in surface runoff would result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and therefore could result in greater potential for on- and off-site flooding.</p> <p><b>PP, HD, IM, NF: Prepare and Submit Final Drainage Plans and Implement Requirements.</b> Before the approval of grading plans and building permits, the project applicant(s) for all project phases shall submit final drainage plans to the City demonstrating that off-site upstream runoff would be appropriately conveyed through the project site, and that project-related on-site runoff would be appropriately contained in detention basins to reduce flooding impacts. Furthermore, the</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>project applicant(s) for all project phases may be required to participate in drainage improvements along Sunrise Boulevard; this will be determined through continuing consultation with the Sacramento County Department of Water Resources.</p> <p><b>Timing:</b> Before approval of grading plans and building permits for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.4-2: Exposure of People or Structures to a Significant Risk of Flooding as a Result of the Failure of a Levee.</b> Project implementation could expose people or structures to a significant risk of flooding as a result of the failure of a levee.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.4-3: Potential Temporary Construction-Related Drainage and Water Quality Effects.</b> Drainage and water quality impacts could result from construction activities at the project site.</p> <p><b>PP, HD, IM, NF: Implement Measures or Best Management Practices to Reduce Water Quality Effects of Temporary Construction Activities.</b> Before the approval of grading permits and improvement plans project applicant(s) for all project phases shall consult with the City, the SWRCB, and the Central Valley RWQCB to acquire the appropriate regulatory approvals that may be necessary to obtain Section 401 water quality certification, an SWRCB statewide NPDES stormwater permit for general construction activity, and any other necessary site-specific WDRs or waivers under the Porter-Cologne Act.</p> <p>The project applicant(s) shall prepare and submit the appropriate NOIs and prepare the SWPPP and any other necessary engineering plans and specifications for pollution prevention and control. The SWPPP and other appropriate plans shall identify and specify:</p> <ul style="list-style-type: none"> <li>▶ the use of erosion and sediment-control BMPs, including construction techniques that will reduce the potential for runoff and other measures to be implemented during construction;</li> <li>▶ the means of waste disposal;</li> <li>▶ the implementation of approved local plans, nonstormwater-management controls, permanent postconstruction BMPs, and inspection and maintenance responsibilities;</li> </ul>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> <li>▶ the pollutants that are likely to be used during construction that could be present in stormwater drainage and nonstormwater discharges, and other types of materials used for equipment operation;</li> <li>▶ spill prevention and contingency measures, including measures to prevent or cleanup spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills;</li> <li>▶ personnel training requirements and procedures that will be used to ensure that workers are aware of permit requirements and proper installation methods for BMP's specified in the SWPPP; and</li> <li>▶ the appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.</li> </ul> <p>Where applicable BMPs identified in the SWPPP shall be in place throughout all site work and construction and shall be used in all subsequent site development activities. BMPs may include such measures as the following:</p> <ul style="list-style-type: none"> <li>▶ Implementing temporary erosion-control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, sandbag dikes, and temporary vegetation.</li> <li>▶ Establishing permanent vegetative cover to reduce erosion in areas disturbed by construction by slowing runoff velocities, trapping sediment, and enhancing filtration and transpiration.</li> <li>▶ Using drainage swales, ditches, and earth dikes to control erosion and runoff by conveying surface runoff down sloping land, intercepting and diverting runoff to a watercourse or channel, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure.</li> </ul> <p>All construction contractors shall retain a copy of the approved SWPPP on the construction site.</p> <p><b>Timing:</b> Before approval of grading permits and improvement plans and throughout all site work and construction for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department, SWRCB, and Central Valley RWQCB.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.4-4: Long-Term Water Quality Effects from Urban Runoff.</b> The project would convert a large area of undeveloped land to residential and commercial uses, thereby changing the amount and timing of potential long-term waste discharges in stormwater runoff to Morrison Creek and other drainage courses on-site.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.4-1.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>NP:</b> No mitigation measures are required.					
<b>3.4-5: Effects on Groundwater Recharge.</b> Shallow and deep percolation of rainwater and related runoff and consequent depth to groundwater could be affected locally by the development of additional impervious surface, which may limit infiltration and recharge.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>Project Level (Phase 1)</b>					
<b>3.4-6: Potential Increased Risk of Flooding from Increased Stormwater Runoff.</b> Implementation of development Phase 1 would increase the amount of impervious surfaces on this portion of the project site, thereby increasing surface runoff. This increase in surface runoff would result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and therefore could result in greater potential for on- and off-site flooding.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.4-1.					
<b>NP:</b> No mitigation measures are required.					
<b>3.4-7: Exposure of People or Structures to a Significant Risk of Flooding as a Result of the Failure of a Levee.</b> Implementation of development Phase 1 could expose people or structures to a significant risk of flooding as a result of the failure of a levee.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.4-8: Potential Temporary Construction-Related Drainage and Water Quality Effects.</b> Drainage and water quality impacts could result from construction activities at the project site with implementation of development Phase 1.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.4-3.					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>NP:</b> No mitigation measures are required.					
<b>3.4-9: Long-Term Water Quality Effects of Urban Runoff.</b> Development Phase 1 would convert a large area of undeveloped land to residential uses, thereby changing the amount and timing of potential waste discharges in stormwater runoff to drainage courses on-site.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.4-1.					
<b>NP:</b> No mitigation measures are required.					
<b>3.4-10: Effects on Groundwater Recharge.</b> Shallow and deep percolation of rainwater and related runoff and consequent depth to groundwater could be affected locally by the development of additional impervious surface, which may limit infiltration and recharge.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.5 UTILITIES AND SERVICE SYSTEMS</b>					
<b>Program Level</b>					
<b>3.5-1: Increased Demand for Initial Water Supplies and Infrastructure.</b> Project implementation would result in increased demand for water supply. Because permanent water supply facilities would not be available until 2010, initial transmission facilities and an initial water supply would be required to convey water for implementation of development phases or projects before 2010.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & SU, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF: 3.5-1a: Submit Proof of Gap Water Availability and Implement On- and Off-Site Infrastructure Delivery System or Assure that Adequate Financing is Secured.</b> Before the approval of any small-lot tentative subdivision map for a proposed residential project of more than 500 dwelling units, the City shall comply with Government Code Section 66473.7. Before the approval of any small-lot tentative subdivision map for a proposed residential project of 500 or fewer units, the City need not comply with Section 66473.7, or formally consult with any public water system that would provide water to the affected area; nevertheless, the City shall make a factual showing or impose conditions similar to those required by Section 66473.7 to ensure an adequate water supply for development authorized by the map.					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>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, the project applicant(s) of that project phase shall demonstrate the availability of a long-term, reliable water supply from a public water system for the amount of development that would be authorized by the final subdivision map or project-specific discretionary nonresidential approval or entitlement. Such a demonstration shall consist of information showing that either existing sources are available or needed supplies and improvements will be in place before occupancy.</p> <p><b>Timing:</b> Before approval of final small-lot maps or, for nonresidential projects, before issuance of use permits, building permits, or other entitlements.</p> <p><b>Enforcement:</b> City of Rancho Cordova Building Department</p> <p><b>NF: Mitigation Measure 3.5-1b: Identify Alternative Water Supply Pipeline Alignments and Implement Measures to Mitigate Impacts.</b></p> <p>To implement the No Federal Action Alternative, the project applicant(s) must identify alternative water supply pipeline alignments and their connection to existing infrastructure on Sunrise Boulevard and/or Douglas Road. Implementation of alternative water pipeline alignments would be subject to separate CEQA compliance.</p> <p>It is possible that water supply pipelines could still be installed along what would have been the southern ends of Rancho Cordova Parkway and Americanos Boulevard following the same alignment shown in Exhibits 2-9a through 2-9c.</p> <p>Other potential water supply pipeline alignments could be designed to travel west from the southern portion of the project site to Sunrise Boulevard and/or travel east to Douglas Road. This alignment would connect to existing infrastructure on Sunrise Boulevard and/or Douglas Road.</p> <p>Alternative alignments have not been subject to CEQA compliance, and therefore, the full extent of impacts cannot be estimated. However, it is assumed that implementation of alternative pipeline alignments would result in significant biological resource impacts, as well as significant construction-related impacts (i.e., construction-related traffic, emission, water quality, and noise impacts). Mitigation identified in this DEIR/DEIS to reduce construction-related impacts would need to be implemented, as well as any specific permit conditions.</p> <p><b>Timing:</b> Before approval of the Rio del Oro Specific Plan.</p> <p><b>Enforcement:</b> City of Rancho Cordova Building Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.5-2: Increased Demand for Permanent Water Supplies.</b> Project implementation would increase demand on the existing water supply available to the City of Rancho Cordova.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	<p>Direct &amp; LTS, No Indirect</p>	<p>Direct &amp; LTS, No Indirect</p>	<p>Direct &amp; LTS, No Indirect</p>	<p>Direct &amp; LTS, No Indirect</p>	<p>No Direct, No Indirect</p>

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.5-3: Need for Permanent Water Facilities and Infrastructure.</b> Project implementation would result in increased demand for water supply. Permanent water facilities would be required to provide water to support project development.</p> <p><b>PP, HD, IM, NF:</b> No further mitigation measures are required.</p> <p><i>[Note: Regarding indirect impacts, the environmental impacts of constructing facilities that would serve the Rio del Oro project were evaluated in the EIR for the 2002 Zone 40 Water Supply Master Plan prepared by SCWA (2004). Measures to mitigate environmental impacts were included in the EIR, which was certified and the master plan was approved. Certain impacts would remain significant and unavoidable even after mitigation measures were implemented.]</i></p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & Indirect SU(m)	Direct & Indirect SU(m)	Direct & Indirect SU(m)	Direct & Indirect SU(m)	No Direct, No Indirect
<p><b>3.5-4: Increased Demand for Interim Wastewater Conveyance Facilities.</b> Project implementation would result in increased generation of wastewater. Because permanent interceptor facilities would not be available until 2024, interim interceptor facilities would be required to convey wastewater flows for implementation of development phases or projects before 2024.</p> <p><b>PP, HD, IM, NF: Submit Proof of Adequate Wastewater and Implement On- and Off-Site Infrastructure Service or Assure that Adequate Financing is Secured.</b> Before the approval of building permits for all project phases, the project applicant(s) shall submit proof to the City that an adequate wastewater conveyance system either has been constructed or is assured through the use of bonds or other sureties to the City's satisfaction. Both on- and off-site wastewater conveyance infrastructure sufficient to provide adequate service to Rio del Oro subdivisions shall be in place before the approval of the final map, or their financing shall be assured to the satisfaction of the City.</p> <p><b>Timing:</b> Before final map approval and before issuance of building permits for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Building Department</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.5-5: Increased Demand for Permanent Wastewater Conveyance Facilities.</b> Project implementation would result in increased generation of wastewater. Permanent trunk and interceptor facilities would be required to convey wastewater flows to support project development.</p>	No Direct, Indirect & SU(m)	No Direct, Indirect & SU(m)	No Direct, Indirect & SU(m)	No Direct, Indirect & SU(m)	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM, NF:</b> No further mitigation measures are required.</p> <p><i>[Note: Regarding indirect impacts, the environmental impacts of constructing trunk and interceptor sewers that would serve the project were evaluated in the CSD-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report (County of Sacramento 2004a) and the Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report (County of Sacramento 2003). Mitigation measures to reduce environmental impacts were contained in these EIRs. Both EIRs were certified and the master plans were approved. Certain impacts would remain significant and unavoidable even after mitigation measures were implemented.]</i></p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.5-6: Increased Demand for Wastewater Treatment Plant Facilities.</b> Project implementation would generate additional wastewater, increasing the demand for wastewater treatment facilities.</p>	Direct & LTS(m), Indirect & SU(m)	Direct & LTS(m), Indirect & SU(m)	Direct & LTS(m), Indirect & SU(m)	Direct & LTS(m), Indirect & SU(m)	No Direct, No Indirect
<p><b>PP, HD, IM, NF: Demonstrate Adequate Wastewater Treatment Capacity.</b> The project applicant(s) for all project phases shall demonstrate adequate capacity at the SRWTP for new wastewater flows generated by the project. This shall involve preparing a tentative map-level study and paying connection and capacity fees as identified by SRCSD and CSD-1. Approval of the final project map shall not be granted until the City verifies adequate SRWTP capacity.</p> <p><b>Timing:</b> Before approval of building permits for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Building and Safety, and Public Works Departments.</p> <p><i>[Note: Regarding indirect impacts related to expansion of the SRWTP, implementation of mitigation measures to reduce air quality impacts is the responsibility of SRCSD. Such measures and would be implemented in accordance with the certified SRWTP 2020 Master Plan Final EIR. Impacts on air quality would remain significant and unavoidable even with implementation of mitigation measures.]</i></p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.5-7: Increased Generation of Solid Waste.</b> Project implementation would increase solid-waste generation.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>					

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.5-8: Increased Demand for Electricity and Infrastructure.</b> Project implementation would increase the demand for electricity and associated infrastructure and would include the extension of existing electrical lines.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.5-9: Increased Demand for Natural Gas and Infrastructure.</b> Project implementation would increase the demand for natural gas and infrastructure and would include the extension of existing natural-gas pipelines.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.5-10: Increased Demand for Communications Service and Infrastructure.</b> Project implementation would increase the demand for communications service and infrastructure and would include the extension of communication lines.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>Project Level (Phase 1)</b>					
<p><b>3.5-11: Increased Demand for Initial Water Supplies.</b> Implementation of development Phase 1 would result in increased demand for water supply. Because permanent water supply facilities would not be available until 2010, initial transmission facilities would be required to convey water supply for implementation of development phases or projects before 2010.</p> <p><b>PP, HD, IM:</b> Implement Mitigation Measure 3.5-1(a) <b>NF:</b> Implement Mitigation Measure 3.5-1(b). <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & SU, No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.5-12: Increased Demand for Permanent Water Supplies.</b> Implementation of development Phase 1 would increase demand on the existing water supply available to the city of Rancho Cordova.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	No Direct, No Indirect			
<p><b>3.5-13: Need for Permanent Water Facilities and Infrastructure.</b> Implementation of development Phase 1 would result in increased demand for water supply. Permanent water facilities would be required to provide water to support the Phase 1 development area.</p> <p><b>PP, HD, IM, NF:</b> No further mitigation measures are required.</p> <p><i>[Note: Regarding indirect impacts, the environmental impacts of constructing facilities that would serve the Rio del Oro project were evaluated in the EIR for the 2002 Zone 40 Water Supply Master Plan prepared by SCWA (2004). Measures to mitigate environmental impacts were included in the EIR, which was certified and the master plan was approved. Certain impacts would remain significant and unavoidable even after mitigation measures were implemented.]</i></p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & Indirect SU(m)	No Direct, No Indirect			
<p><b>3.5-14: Increased Demand for Interim Wastewater Conveyance Facilities.</b> Implementation of development Phase 1 would result in increased generation of wastewater. Because permanent interceptor facilities would not be available until 2024, interim interceptor facilities would be required to convey wastewater flows from the Phase 1 development area.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.5-4.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	No Direct, No Indirect			
<p><b>3.5-15: Increased Demand for Permanent Wastewater Conveyance Facilities.</b> Implementation of development Phase 1 would result in the need for permanent wastewater conveyance facilities to convey wastewater flows after 2024 when the Laguna Creek Interceptor is complete.</p> <p><b>PP, HD, IM, NF:</b> No further mitigation measures are required.</p>	No Direct, Indirect & SU(m)	No Direct, No Indirect			

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><i>[Note: Regarding indirect impacts, the environmental impacts of constructing trunk and interceptor sewers that would serve the project were evaluated in the CSD-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report (County of Sacramento 2004a) and the Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report (County of Sacramento 2003). Mitigation measures to reduce environmental impacts were contained in these EIRs. Both EIRs were certified and the master plans were approved. Certain impacts would remain significant and unavoidable even after mitigation measures were implemented.]</i></p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.5-16: Increased Demand for Wastewater Treatment Facilities.</b> Implementation of development Phase 1 would generate additional wastewater, increasing the demand for wastewater treatment facilities.</p>	Direct & LTS(m), Indirect & SU(m)	No Direct, No Indirect			
<p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.5-6.</p> <p><i>[Note: Regarding indirect impacts related to expansion of the SRWTP, implementation of mitigation measures to reduce air quality impacts is the responsibility of SRCSD. Such measures would be implemented in accordance with the certified SRWTP 2020 Master Plan Final EIR. Impacts on air quality would remain significant and unavoidable even with implementation of mitigation measures.]</i></p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.5-17: Increased Generation of Solid Waste.</b> Implementation of development Phase 1 would increase solid-waste generation.</p>	Direct & LTS, No Indirect	No Direct, No Indirect			
<p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>					
<p><b>3.5-18: Increased Demand for Electricity and Infrastructure.</b> Implementation of development Phase 1 would increase the demand for electricity and associated electrical infrastructure and would include the extension of existing electrical lines.</p>	Direct & LTS, No Indirect	No Direct, No Indirect			
<p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.5-19: Increased Demand for Natural Gas and Infrastructure.</b> Implementation of development Phase 1 would increase the demand for natural gas and associated infrastructure and would include the extension of existing natural-gas pipelines.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.5-20: Increased Demand for Communications Service and Infrastructure.</b> Implementation of development Phase 1 would increase the demand for communications service and infrastructure and would include the extension of existing communication lines.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>3.6 PUBLIC SERVICES</b>					
<b>Program Level</b>					
<p><b>3.6-1: Temporary Obstruction of Roadways during Construction.</b> Project implementation could obstruct roadways in the project vicinity during construction, potentially obstructing or slowing emergency vehicles attempting to access the area.</p> <p><b>PP, HD, IM, NF: Prepare and Implement Traffic Control Plans.</b> The project applicant(s) and/or project contractor(s) for all project phases shall prepare and implement traffic control plans for construction activities that may affect road rights-of-way. The traffic control plans must follow standards of the agency responsible for the affected roadway and must be signed by a professional engineer. Measures typically used in traffic control plans include advertising of planned lane closures, warning signage, a flagperson to direct traffic flows when needed, and methods to ensure continued access by emergency vehicles. During project construction, access to existing land uses shall be maintained at all times, with detours used as necessary during road closures. Traffic control plans shall be submitted to the City Public Works Department for review and approval before the approval of all project plans or permits for all project phases where implementation may cause impacts to traffic.</p> <p><b>Timing:</b> Before the approval of all relevant plans and/or permits and during construction for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>NP:</b> No mitigation measures are required.					
<b>3.6-2: Increased Demand for Fire Protection Facilities, Systems, Equipment, and Services.</b> Project development would result in increased demand for fire protection facilities and services, potentially resulting in the need for additional staff and equipment to maintain an adequate level of service.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF: Incorporate California Fire Code and SMFD Fire Prevention Standards into Project Design and Submit Project Design to SMFD for Review and Approval.</b> The project applicant(s) for all project phases shall incorporate into their project designs fire flow requirements based on the California Fire Code, SMFD Fire Prevention Standard 441.1051, and other applicable requirements based on SMFD fire prevention standards. Approved plans showing access design shall be provided to SMFD as described by Fire Prevention Standard 444.302 (“Fire Apparatus Access Roads”). These plans shall describe access-road length, dimensions, and finished surfaces for firefighting equipment.</p> <p>Improvement plans showing hydrant locations shall be submitted to the SMFD Fire Prevention Bureau for review and approval. Fire hydrant details and SMFD notes shall be shown on the plans or improvement drawings as detailed in Fire Prevention Standard 441.1051. A letter from the Sacramento County Water Agency shall be obtained verifying that adequate water is available for fire flow.</p> <p>In addition, as required by the City General Plan, new commercial and industrial development, as well as multi-family residential development with five or more units must incorporate on-site fire suppression systems into project designs</p> <p>If security gates are installed at the project site, the project applicant(s) shall obtain a copy of the County Fire Code, Amendment VII, “Emergency Access Gates and Barriers.” The design of the entry shall conform to this standard.</p> <p>The City shall not authorize the occupancy of any structures until the project applicant(s) has obtained a Certificate of Release (Standard 441.105, “Certificate of Release—Residential”) from SMFD verifying that all fire prevention items have been addressed on-site to the satisfaction of SMFD.</p> <p><b>Timing:</b> Before approval of improvement plans and issuance of occupancy permits or final inspections for all project phases.</p> <p><b>Enforcement:</b> Sacramento Metropolitan Fire District and City of Rancho Cordova Department of Building and Safety.</p> <p><b>NP:</b> No mitigation measures are required.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.6-3: Increased Demand for Fire Flow.</b> Project implementation would include the development of residential, commercial, school, and other uses that would require adequate available water flow for fire suppression. Lack of adequate fire flow would impede the ability of SMFD to provide effective fire suppression at the project site.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.6-2.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.6-4: Increased Demand for Police Protection Facilities, Services, and Equipment.</b> Project development would increase the demand for police protection facilities and services, resulting in the need for additional staff and equipment to maintain an adequate level of service.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.6-5: Increased Demand for Public Elementary School Facilities and Services.</b> Project implementation would increase demand for elementary schools (grades K–5) to serve the project site.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.6-6: Increased Demand for Public Middle School and High School Facilities and Services.</b> Project implementation would increase demand for middle schools (grades 6–8) and high schools (grades 9–12) to serve the project site.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>Project Level (Phase 1)</b>					
<p><b>3.6-7: Temporary Obstruction of Roadways during Construction.</b> Implementation of development Phase 1 could obstruct roadways in the project vicinity during construction activities, which could obstruct or slow emergency vehicles attempting to access the area.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.6-1. <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.6-8: Increased Demand for Fire Protection Facilities, Systems, Equipment, and Services.</b> Implementation of development Phase 1 would result in increased demand for fire protection facilities, systems, equipment, and services, potentially resulting in the need for additional staff and equipment to maintain an adequate level of service.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.6-2. <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.6-9: Increased Demand for Fire Flow.</b> Implementation of development Phase 1 would include the construction of residential, commercial, school, and other uses that would require adequate available water flow for fire suppression. Lack of adequate fire flow would impede the ability of SMFD to provide effective fire suppression at the project site.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.6-2. <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.6-10: Increased Demand for Police Protection Facilities, Services, and Equipment.</b> Implementation of development Phase 1 would increase the demand for police protection facilities, services, and equipment, resulting in the need for additional staff and equipment to maintain an adequate level of service.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.6-11: Increased Demand for Public Elementary School Facilities and Services.</b> Implementation of development Phase 1 would increase demand for elementary schools (grades K–5) to serve the project site.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.6-12: Increased Demand for Public Middle School and High School Facilities and Services.</b> Implementation of development Phase 1 would increase demand for middle schools (grades 6–8) and high schools (grades 9–12) to serve the project site.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.7 GEOLOGY, SOILS, AND MINERAL RESOURCES</b>					
<b>Program Level</b>					
<b>3.7-1: Potential Temporary, Short-Term Construction-Related Erosion.</b> Construction activities during project implementation would involve extensive grading and movement of earth, which could expose soils to erosion and result in the loss of topsoil.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF: Prepare and Implement a Grading and Erosion Control Plan.</b> A grading and erosion control plan shall be prepared by a California Registered Civil Engineer retained by the project applicant(s) for all project phases. The grading and erosion control plan shall be submitted to the City Department of Public Works before the issuance of grading permits for all new development within the project site. The plan shall be consistent with the City’s Land Grading and Erosion Control Ordinance as well as the City’s National Pollutant Discharge Elimination System (NPDES) permit and shall include the site-specific grading associated with development for all project phases. The plan shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, a description of measures designed to control dust and stabilize the construction-site road and entrance, and a description of the location and methods of storage and disposal of construction materials. Erosion and sediment control measures could include the use of detention basins, berms, swales, wattles, and silt fencing. Stabilization of construction entrances to minimize trackout (control dust) is commonly achieved by installing filter fabric and crushed rock to a depth of approximately 1 foot. The project applicant(s) shall ensure that the construction contractor is responsible for securing a source of					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>transportation and deposition of excavated materials. Implement Mitigation Measure 3.4-3 (discussed in Section 3.4, “Drainage, Hydrology, and Water Quality”) will help reduce erosion related impacts.</p> <p><b>Timing:</b> Before the issuance of grading permits for all project phases, and throughout project construction.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department, Building and Safety Department, and Planning Departments.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.7-2: Potential Damage to Structures from Seismic Activity and Related Geologic Hazards.</b> The project site is located in an area of low seismic activity and structures at the site would be designed in accordance with CBC standards.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>					
<p><b>3.7-3: Potential Damage to Structures from Construction on Unstable Soils.</b> Portions of the project site are underlain by soils that have a moderate to high potential for expansion when wet, or are underlain by piles of unstable cobbles and slickens soils from dredge mining activities. Construction in any of these soils can cause damage to overlying structures.</p>	No Direct, Indirect & LTS(m)	No Direct, Indirect & LTS(m)	No Direct, Indirect & LTS(m)	No Direct, Indirect & LTS(m)	No Direct, No Indirect
<p><b>PP, HD, IM, NF: 3.7-3a: Prepare a Geotechnical Study and Implement All Applicable Recommendations.</b> Before the approval of grading plans for all project phases, a final geotechnical subsurface investigation report shall be prepared by the project applicant(s) for the proposed development and shall be submitted to the City. The final geotechnical engineering report shall address and make recommendations on the following:</p> <ul style="list-style-type: none"> <li>▶ site preparation;</li> <li>▶ appropriate sources and types of fill;</li> <li>▶ potential need for soil amendments;</li> <li>▶ road, pavement, and parking areas;</li> <li>▶ structural foundations, including retaining wall design;</li> <li>▶ grading practices;</li> <li>▶ erosion/winterization;</li> <li>▶ special problems discovered on-site (e.g., groundwater and expansive/unstable soils); and</li> <li>▶ slope stability.</li> </ul>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>The geotechnical investigation shall include subsurface testing of soil and groundwater conditions and determine appropriate foundation designs that are consistent with the CBC. If the soils report indicates the presence of critically expansive soils or other soil problems that would lead to structural defect if not corrected, additional investigations may be required for subdivisions before building permits are issued. This shall be so noted on the project grading plans. Recommendations contained in the geotechnical engineering report shall be noted on the grading plans and implemented as appropriate before the issuance of building permits. Design and construction of all new development in all phases of the proposed project shall be in accordance with the CBC and the County Land Grading and Erosion Control Ordinance. It is the responsibility of the project applicant(s) to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.</p> <p><b>Timing:</b> Before approval of grading plans for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p><b>NP:</b> No mitigation measures are required.</p> <p><b>PP, HD, IM, NF: 3.7-3b: Ensure On-Site Monitoring by a Geotechnical Engineer.</b> All earthwork shall be monitored by a geotechnical engineer retained by the project applicant(s) for all project phases. The geotechnical engineer shall provide oversight during all excavation, placement of fill, and disposal of materials removed from and deposited on the subject site and other sites. Before export/import of any soil to/from an off-site location, the project applicant(s) shall obtain a grading permit from the City Department of Public Works.</p> <p><b>Timing:</b> Before issuance of grading permit and during construction activities for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.7-4: Loss of Mineral Resources.</b> The project site is located within the Sacramento-Fairfield Production-Consumption Region designated by CDMG and is classified as MRZ-2, an area containing significant mineral deposits (including Portland Cement concrete-grade aggregate).</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, & Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>Project Level (Phase 1)</b>					
<p><b>3.7-5: Potential Temporary Short-Term Construction-Related Erosion.</b> Construction activities during development Phase 1 would involve extensive grading and movement of earth, which could expose soils to erosion and result in the loss of topsoil.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.7-1 and Mitigation Measure 3.4-3. <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	No Direct, No Indirect			
<p><b>3.7-6: Potential Damage to Structures from Seismic Activity and Related Ground Failure.</b> The Phase 1 development area is located in an area of low seismic activity and structures at the site would be designed in accordance with CBC standards.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	No Direct, No Indirect			
<p><b>3.7-7: Potential Damage to Structures from Construction on Expansive Soils.</b> The Phase 1 development area is underlain by soils that have a moderate to high potential for expansion when wet. Expansive soils may cause differential and cyclical foundation movements that can cause damage and/or distress to overlying structures.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measures 3.7-3a and 3.7-3b. <b>NP:</b> No mitigation measures are required.</p>	No Direct, Indirect & LTS(m)	No Direct, No Indirect			
<p><b>3.7-8: Loss of Mineral Resources.</b> The Phase 1 development area is within the Sacramento-Fairfield Production-Consumption Region designated by CDMG, and is classified as MRZ-2, an area containing significant mineral deposits (including Portland Cement concrete-grade aggregate).</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	No Direct, & Indirect			

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>3.8 PALEONTOLOGICAL RESOURCES</b>					
<b>Program Level</b>					
<b>3.8-1: Potential Disturbance of Previously Unknown Paleontological Resources During Earthmoving Activities.</b> Construction activities could disturb previously unknown paleontological resources at the project site.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>Project Level (Phase 1)</b>					
<b>3.8-2: Potential Disturbance of Previously Unknown Paleontological Resources During Earthmoving Activities.</b> Construction activities within the Phase 1 development area could disturb previously unknown paleontological resources.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.9 CULTURAL RESOURCES</b>					
<b>Program Level</b>					
<b>3.9-1: Loss or Damage to Recorded Cultural Resource Sites.</b> Construction activities during project implementation could result in the loss of known cultural resources.	No Direct, Indirect & LTS	No Direct, Indirect & LTS	No Direct, Indirect & LTS	No Direct, Indirect & LTS	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.9-2: Loss of or Damage to Historic Sites, Buildings, and Structures.</b> Construction activities during project implementation would result in the loss of known historic sites, buildings, and structures.	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM, NF: Record Eligible Historic Resources to Historic American Building Survey Standards and on Appropriate State Forms.</b> If the Solid Propellant Assembly Area and the Sigma Test Area structures and their earthen berms must be demolished for project implementation, built elements of the eligible districts shall be documented by the project applicant(s) according to Historic American Building Survey (HABS) standards and recorded as cultural resources on California Department of Parks and Recreation (State Parks) Series 523 Primary and Archaeological Site records, and other appropriate forms from State Parks. The project applicant(s) shall have this documentation completed before approval of demolition permits for any of the historic structures or features.</p> <p><b>Timing:</b> Before approval of demolition permits for the historic structures.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.9-3: Potential Damage to As-Yet-Undiscovered Prehistoric Sites or Native American Burials.</b> Construction and earthmoving activities during project implementation could result in damage to as-yet-unknown cultural resources, including prehistoric sites or Native American burials.</p>	Direct & LTS(m), No Indirect	No Direct, No Indirect			
<p><b>PP, HD, IM, NF: Provide Preconstruction Worker Education and Stop Potentially Damaging Work if Human Remains are Uncovered during Construction.</b> Before initiation of construction or ground-disturbing activities associated with the project, the project applicant(s) for all project phases shall require all construction personnel to be alerted to the possibility of buried cultural resources. The general contractor and its supervisory staff shall be responsible for monitoring the construction project for disturbance of cultural resources. 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 City shall be notified immediately. The project applicant(s) shall retain a City-approved qualified archaeologist who shall conduct a field investigation of the specific site and recommend mitigation deemed necessary for the protection or recovery of any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. The City shall be responsible for approval of recommended mitigation if it is determined by the City to be feasible in light of approved land uses. The project applicant(s) shall implement the approved mitigation before the resumption of construction activities at the construction site.</p> <p>In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the project site, work within 50 feet of the remains shall be suspended immediately, and the City and the County Coroner shall be notified immediately. If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours of that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign a Most Likely Descendant (MLD) to serve as the main point of Native American contact and consultation. Following the coroner's findings, the MLD and the archaeologist shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The project applicant(s) shall be required to implement any feasible, timely-formulated mitigation deemed necessary for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed. This measure shall be included in all grading and improvement plans for all project phases.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>Timing:</b> Before approval of grading plans and during all ground-disturbing activities for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<b>Project Level (Phase 1)</b>					
<p><b>3.9-4: Loss of or Damage to Recorded Cultural Resource Sites.</b> Construction activities during development Phase 1 could result in the loss of known cultural resources.</p>	No Direct, Indirect & LTS	No Direct, Indirect & LTS	No Direct, Indirect & LTS	No Direct, Indirect & LTS	No Direct, No Indirect
<p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>					
<p><b>3.9-5: Loss of or Damage to Historic Sites, Buildings, and Structures.</b> Construction activities during development Phase 1 could result in the loss of known historic sites, buildings, and structures.</p>	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>					
<p><b>3.9-6: Potential Damage to As-Yet-Undiscovered Prehistoric Sites or Native American Burials.</b> Construction and other earthmoving activities during Phase 1 of the project could result in damage to as-yet-unknown cultural resources, including prehistoric sites or Native American burials.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF: Monitor Construction in Culturally Sensitive Areas and Stop Potentially Damaging Work if Archaeological Sites or Human Remains are Uncovered during Construction.</b> Because areas of increased cultural sensitivity have been identified as a result of Native American contacts, the project applicant(s) of Phase 1 shall retain a City-approved qualified professional archaeologist to provide on-site monitoring during construction activities in these sensitive areas, as depicted in Exhibit 3.9-1. If the archaeologist notes unusual amounts of bone, stone, shell, burned soils, or other possible indications of buried archaeological resources, construction in the vicinity shall be halted until the find can be assessed. The archaeologist shall conduct a field investigation of the specific site and shall recommend mitigation deemed necessary for the protection or recovery of any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. The City shall be responsible for approval of recommended mitigation if it is determined by the City to be feasible in light of approved land uses. The project applicant(s) shall implement the approved mitigation before the resumption of construction activities at the construction site.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the project site, work within 50 feet of the remains shall be suspended immediately, and the City and the County Coroner shall be notified immediately. If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours of that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign an MLD to serve as the main point of Native American contact and consultation. Following the coroner’s findings, the MLD and the archaeologist shall determine the ultimate treatment and disposition of the remains and shall take appropriate steps to ensure that additional human interments are not disturbed. The project applicant(s) of Phase 1 shall be required to implement any feasible, timely-formulated mitigation deemed necessary for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed. Implementation of Mitigation measure 3.9-3 will help reduce potential impacts to cultural resources.</p> <p><b>Timing:</b> Before approval of grading and improvement plans and during all ground-disturbing activities in the sensitive areas of Phase 1.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<b>3.10 BIOLOGICAL RESOURCES (Project Level for the Entire Site)</b>					
<p><b>3.10-1: Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State.</b> Implementation of the project would result in fill of jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the federal Clean Water Act, and the substantial loss and degradation of nonjurisdictional wetland habitats protected under state and local regulations. Wetlands and other waters of the United States that would be affected by project implementation include vernal pools, seasonal wetland swales, ponds, and seasonal drainages.</p>	<p>Direct &amp; LTS(m), Indirect &amp; SU(m)</p>	<p>No Direct, No Indirect</p>			
<p><b>PP, HD, IM: 3.10-1a: Secure Clean Water Act Section 404 Permit and Implement All Permit Conditions, and Ensure No Net Loss of Wetlands, Other Waters of the United States, and Associated Functions and Values.</b> Before the approval of grading and improvement plans and before any groundbreaking activity associated with each distinct project phase, the project applicant(s) for each project phase requiring the fill of wetlands or other waters of the United States or waters of the state shall obtain all necessary permits under Sections 401 and 404 of the CWA or the State’s Porter-Cologne Act for the respective phase. The project applicant(s) shall commit to replace, restore, or enhance on a “no net loss” basis (in accordance with USACE, the Central Valley RWQCB, and the Natural Resources Element of the City General Plan) the acreage of all wetlands and other waters of the United States subject to USACE jurisdiction and waters of the state subject to RWQCB jurisdiction and the City General Plan that would be removed, lost, and/or degraded with implementation of project plans for that phase. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the Central Valley RWQCB, and the City, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>To accomplish this mitigation, the project applicant(s) shall take the following steps:</p> <ul style="list-style-type: none"> <li>▶ As part of the Section 404 permitting process, a draft wetland mitigation and monitoring plan has been developed for the project (Appendix C) by ECORP on behalf of the project applicant(s). Before any ground-disturbing activities that would adversely affect wetlands, and before engaging in mitigation activities associated with each phase of development, the project applicant(s) shall submit the draft wetland mitigation and monitoring plan to USACE, the Central Valley RWQCB, and the City for review and approval of those portions of the plan over which they have jurisdiction. Once the mitigation and monitoring plan is approved and implemented, mitigation monitoring will continue for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the performance standards identified in the approved mitigation and monitoring plan have been met, whichever is longer.</li> </ul> <p>The plan shall be prepared to the satisfaction of the City, in accordance with the City’s Grading and Erosion Control Ordinance, as well as to the satisfaction of those agencies with jurisdiction over all or portions of the plan.</p> <ul style="list-style-type: none"> <li>▶ In conjunction with preparation and implementation of an approved wetland mitigation and monitoring plan, the project applicant(s) shall prepare and submit plans for the creation of jurisdictional waters of the United States, including wetlands, at an adequate mitigation ratio to offset the aquatic functions and values that would be lost at the project site, account for the temporal loss of habitat, and contain an adequate margin of safety to reflect anticipated success. The mitigation and monitoring plans must demonstrate how the aquatic functions and values that would be lost through project implementation will be replaced. The habitat mitigation and monitoring plan for jurisdictional wetland features will need to be consistent with USACE’s December 30, 2004, <i>Habitat Mitigation and Monitoring Proposal Guidelines</i>. The wetland mitigation and monitoring plan shall also mitigate impacts on vernal pool and seasonal wetland habitat, and shall describe specific method(s) to be implemented to avoid and/or mitigate any off-site project-related impacts. The wetland creation section of the habitat mitigation and monitoring plan shall include the following: <ul style="list-style-type: none"> <li>• target areas for creation;</li> <li>• a complete biological assessment of the existing resources in the target areas;</li> <li>• specific creation and restoration plans for each target area;</li> <li>• performance standards for success that will illustrate that the compensation ratios are met; and</li> <li>• a monitoring plan, including schedule and annual-report format.</li> </ul> </li> <li>▶ For each phase of development, including off-site project-related impacts, the project applicant(s) shall secure the permits and regulatory approvals described below and shall implement all permit conditions. For each respective phase, all permits, regulatory approvals, and permit conditions for effects on wetland habitats shall be secured before implementation of any grading activities within 250 feet of waters of the United States or wetland habitats, including waters of the state, that potentially support federally listed species. The setback may be reduced to a distance approved by the City and USFWS if a wetland avoidance plan is developed and implemented by a qualified biologist. The wetland avoidance plan must be approved by USFWS and the City and shall demonstrate that all direct and indirect impacts on wetlands will be avoided. Project phases in upland areas with no wetlands or waters of the United States within 250 feet, and no overland hydrologic flow patterns, the disturbance of which may affect such waters, may begin construction before these particular permits are obtained. Buffers around wetlands that do not support federally listed species shall be a minimum of 50 feet from the edge of these features in accordance with conditions of the NPDES permit and associated best</li> </ul>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>management practices (BMPs).</p> <ul style="list-style-type: none"> <li>Authorization to place dredged or fill material into waters of the United States shall be secured from USACE through the CWA Section 404 permitting process before any fill is placed in jurisdictional wetlands or other waters of the United States. USACE has determined that the project will require an individual permit. In its final stage and once approved by USACE, the proposed mitigation and monitoring plan for the project is expected to detail proposed wetland restoration, enhancement, and/or replacement activities that would ensure no net loss of aquatic functions and values in the project vicinity. Approval and implementation of the wetland mitigation and monitoring plan shall fully mitigate all impacts on jurisdictional waters of the United States, including jurisdictional wetlands. In addition to USACE approval, approval by the City and the Central Valley RWQCB, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes, will also be required. To satisfy the requirements of the City and the Central Valley RWQCB, mitigation of impacts on nonjurisdictional wetlands beyond the jurisdiction of USACE shall be included in the same mitigation and monitoring plan. All mitigation requirements determined through this process shall be implemented before grading plans are approved. Wetland mitigation must be approved before any impacts on wetlands commence.</li> <li>Water quality certification pursuant to Section 401 of the CWA will be required before issuance of a Section 404 permit. Before construction in any areas containing wetland features, the project applicant(s) shall obtain water quality certification for the applicable phase of the project. Any measures required as part of the issuance of water quality certification shall be implemented.</li> </ul> <p>If Section 401 and 404 permit requirements ensure no net loss of all wetland features, including vernal pools, and these requirements are addressed before any ground-disturbing activities, no additional mitigation will be required by the City. Written approval from the City indicating that these requirements fulfill all no-net-loss obligations must be obtained before the approval of grading or improvement plans or any ground-disturbing activities in any project phase containing wetland features.</p> <p><b>Timing:</b> Before the approval of grading or improvement plans or any ground-disturbing activities for any project development phase containing wetland features. The mitigation and monitoring plan must be approved before any impact on wetlands can occur. Mitigation shall be implemented on an ongoing basis throughout and after construction, as required.</p> <p><b>Enforcement:</b> U.S. Army Corps of Engineers, Sacramento District; Central Valley Regional Water Quality Control Board; and City of Rancho Cordova Planning Department, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes and in compliance with the City's Grading and Erosion Control Ordinance.</p> <p><b>NF:</b> The project applicant(s) for all project phases shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with the Central Valley RWQCB and the Natural Resources Element of the City General Plan) the acreage of all waters of the state. Waters of the state include all nonjurisdictional wetlands that would be removed, lost, and/or degraded with implementation of project plans for that phase that require permitting from the resource agencies. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to the Central Valley RWQCB and the City.</p> <p><b>NP:</b> No mitigation measures are required.</p> <p><b>PP, HD, IM, NF 3.10-1b: Include in Drainage Plans All Wetlands that Remain On-Site.</b> To minimize indirect effects on water quality and wetland hydrology, the project applicant(s) of each project phase shall include drainage plans in their improvement plans and shall submit the drainage plans to the City Public Works</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Department for review and approval. Before approval of these improvement plans, the project applicant(s) for all project phases shall commit to implement all measures in its drainage plans to avoid and minimize erosion and runoff into Morrison Creek and all wetlands that would remain on-site. Appropriate runoff controls such as berms, storm gates, detention basins, overflow collection areas, filtration systems, and sediment traps shall be implemented to control siltation and the potential discharge of pollutants. For runoff during construction, see Section 3.4, “Drainage, Hydrology, and Water Quality,” for a further discussion of NPDES (Stormwater Pollution Prevention Plan).</p> <p>The project shall result in no net change to peak flows into Morrison Creek and associated tributaries. The project applicant(s) shall establish a baseline of conditions for drainage on-site. The baseline-flow conditions will be established for 2-, 5-, 10-, and 20-year storm events. These baseline conditions shall be used to develop monitoring standards for the stormwater system on the project site. The baseline conditions, monitoring standards, and a monitoring program shall be submitted to USACE and the City for their approval. The engineered channel and detention basins shall be designed and constructed to ensure that the performance standards are met. The discharge site into Morrison Creek and associated tributaries shall be monitored to ensure that preproject conditions are being met. Corrective measures shall be implemented as necessary. The mitigation measures will be satisfied when the monitoring standards are met for 5 consecutive years without undertaking corrective measures to meet the performance standard.</p> <p><b>Timing:</b> Before approval of improvements and drainage plans, and on an ongoing basis throughout and after project construction, as required for all project phases.</p> <p><b>Enforcement:</b> U.S. Army Corps of Engineers, Sacramento District; and City of Rancho Cordova Public Works and Planning Departments.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.10-2: Loss and Degradation of Sensitive Natural Communities.</b> Implementation of the project would result in the substantial loss and degradation of riparian habitat and other natural communities considered sensitive by state and local resource agencies and requiring consideration under CEQA. Sensitive natural communities that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative include willow scrub, mixed riparian scrub, willow woodland, and cottonwood–willow riparian forest.</p>	<p>Direct &amp; Indirect SU(m)</p>	<p>Direct &amp; Indirect SU(m)</p>	<p>Direct &amp; Indirect LTS(m), Indirect SU(m)</p>	<p>Direct &amp; Indirect LTS</p>	<p>No Direct, No Indirect</p>
<p><b>PP, HD, IM: 3.10-2a: Secure and Implement Section 1602 Streambed Alteration Agreement.</b> A Section 1602 Streambed Alteration Agreement from DFG will be required for construction affecting the bed and bank of Morrison Creek. As a condition of issuance of the Streambed Alteration Agreement, the project applicant(s) for all project phases shall prepare a habitat mitigation plan. The wetland mitigation and monitoring plan currently being developed may be suitable to DFG, if it is expanded to adequately cover impacts on the stream channel of Morrison Creek and impacts on on-site riparian habitat at adequate ratios as determined by DFG, subject to limitations on its authority set forth in Fish and Game Code section 1600 et seq.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Any conditions of issuance of the Streambed Alteration Agreement shall be implemented as part of project construction activities that adversely affect the bed and bank and current and historic riparian habitat associated with Morrison Creek that is within the area subject to DFG jurisdiction. The agreement shall be executed by the project applicant(s) and DFG before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the bed and bank of Morrison Creek and its associated current and historic riparian habitat.</p> <p><b>Timing:</b> Before the approval of grading or improvement plans or any construction activities (including clearing and grubbing) that affect the bed and bank or current and historic riparian habitat associated with Morrison Creek.</p> <p><b>Enforcement:</b> California Department of Fish and Game.</p> <p><b>NF:</b> No mitigation measures are required because the No Federal Action Alternative would not result in alteration to the bed or bank of Morrison Creek. Therefore, a Streambed Alteration Agreement from DFG would not be needed as it would under the action alternatives.</p> <p><b>NP:</b> No mitigation measures are required.</p> <p><b>PP, HD, IM: 3.10-2b: Preserve, Restore, or Create Riparian Habitat at Satisfactory Ratio to Fulfill Local Planning Framework Requirements.</b> Goal NR.1 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of “large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors.” Portions of the on-site riparian habitat such as the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub have been determined to provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats. To implement Goal NR.1, a habitat mitigation and monitoring plan shall be developed and implemented to replace the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub at no-net-loss acreage to preserve the overall habitat functions and values. Elements of the habitat mitigation and monitoring plan may include habitat preservation on-site, enhancement of on-site riparian habitat types, or enhancement or protection of habitat off-site. The specific ratios of habitat lost to habitat created shall be determined by the City in consultation with DFG as a trustee agency protecting the wildlife resources of the state. The ratios shall be consistent with the City’s policy and shall be adequate to protect and preserve the diverse resources in the City.</p> <p>Any conditions of issuance of the riparian mitigation and monitoring plan shall be implemented as part of project construction activities that adversely affect riparian habitat. The riparian habitat mitigation and monitoring plan shall be developed by the project applicant(s) and submitted to the City before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the cottonwood willow riparian woodland and willow scrub on-site. The cottonwood-willow riparian forest habitat and willow woodland shall be either preserved or replaced on- or off-site on a no-net-loss basis because it provides functioning riparian habitat that is self-sustaining at the present time. If preservation of this on-site habitat type is chosen, the hydrology that supports this habitat must also be preserved to ensure the long-term viability of this habitat type.</p> <p>The remainder of the riparian habitat on the project site consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation. Because of the poor quality of the majority of the riparian habitat on the project site, the project mitigation for this riparian habitat shall be limited to the replacement and/or restoration of</p>					

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<p>its current function and value (which consists of nesting and foraging habitat for raptors and other birds, as well as foraging habitat and shelter for numerous common wildlife species) as determined acceptable to the City in consultation with DFG as a trustee agency.</p> <p><b>Timing:</b> Before the approval of grading or improvement plans or any construction activities and before removal of any riparian vegetation as required for any project phase.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department in consultation with California Department of Fish and Game.</p> <p><b>NF:</b> No mitigation measures are required because the No Federal Action Alternative would not result in adverse effects on riparian habitat in addition to those habitats protected and addressed under City policy.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.10-3: Loss of Oak Woodland and Individual Oak Trees.</b> Project implementation would result in the loss of 3 acres of oak woodland habitat and would include the removal of 47 individual native oak trees with a diameter at breast height (dbh) of 6 inches or greater.</p>	<p>Direct and LTS(m), No Indirect</p>	<p>Direct and LTS(m), No Indirect</p>	<p>Direct and LTS(m), No Indirect</p>	<p>Direct and LTS(m), No Indirect</p>	<p>No Direct, No Indirect</p>
<p><b>PP, HD, IM, NF: Perform Tree Survey and Avoid or Replace Native Oak Trees and Other Native Trees Scattered Throughout the Project Site.</b> Before the approval of any development in areas identified to contain trees, the City shall require that a determinate survey of tree species and size be performed. If any native oaks or other native trees of 6 inches or greater dbh, multitrunk native oaks or native trees of 10 inches or greater dbh, or nonnative trees of 18 inches or greater dbh that have been determined by a qualified professional to be in good health are found to exist in the development area, such trees shall be avoided if feasible. If such trees cannot feasibly be avoided, the project applicant(s) for all project phases containing trees shall do one of the following:</p> <ul style="list-style-type: none"> <li>▶ All such trees that will be removed or otherwise damaged by project implementation shall be replaced at an inch-for-inch ratio. A replacement tree planting plan shall be prepared by a qualified professional or licensed landscape architect and shall be submitted to the City for approval before removal of trees; OR</li> <li>▶ The project applicant(s) shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City. The mitigation plan shall be subject to City approval.</li> </ul> <p>Trees mitigated through implementation of mitigation measures associated with riparian habitat impacts shall not be subject to this mitigation measure. If the City adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.</p> <p><b>Timing:</b> Before the approval of any development in any project phase that contains areas that have been identified to contain trees.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p>					

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	PP	HD	IM	NF	NP
<b>NP:</b> No mitigation measures are required.					
<b>3.10-4: Loss and Degradation of Habitat for Special-Status Wildlife.</b> Implementation of the project would result in the loss and degradation of habitat for a number of special-status wildlife species, including vernal pool invertebrates, VELB, Swainson’s hawk, and other raptors.	Direct & Indirect SU(m)	Direct & Indirect SU(m)	Direct & Indirect SU(m)	Direct & Indirect SU(m)	No Direct, No Indirect
<p><b>PP, HD, IM: 3.10-4a: Secure Take Authorization for Federally Listed Vernal Pool Invertebrates and Implement Permit Conditions.</b> No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a biological opinion (BO) has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including conservation and minimization measures) intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction, a detailed monitoring plan, and reporting requirements.</p> <p>The project applicant(s) for all project phases shall identify mitigation for the impacts on vernal pools and other seasonal wetland habitats that support or potentially support federally listed vernal pool invertebrates that will ensure no net loss of habitat (acreage and function) for these species in the Laguna Formation. The project applicant(s) shall complete and implement a habitat mitigation and monitoring plan that will compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat mitigation and monitoring plan shall be consistent with guidance provided in <i>Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office, California</i> (USFWS 1996) and the SSCHCP or shall provide an alternative approach that is acceptable to the City, USACE, and USFWS and accomplishes no net loss of habitat.</p> <p>The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a conservation easement acceptable to USACE, the City, and USFWS.</p> <p>The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, “Drainage, Hydrology, and Water Quality,” for the details of BMPs to be implemented.</p> <p><b>Timing:</b> Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the mitigation plan, BO, and/or BMPs.</p> <p><b>Enforcement:</b> U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; and City of Rancho Cordova Planning Department.</p> <p><b>NF:</b> The project applicant(s) for all project phases shall obtain an incidental take permit under Section 10(a) of ESA. No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a BO has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including all conservation and minimization measures). Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction.</p> <p>Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on federally listed vernal pool invertebrates, or participate in the SSCHCP, if available. The project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that shall compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat conservation plan shall be consistent with the goals of the <i>Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon</i> (USFWS 2005) and must be approved by USFWS.</p> <p>The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a fee title or conservation easement acceptable to the City and USFWS.</p> <p>The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation in support of a lesser indirect impact distance. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.</p> <p>A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, “Drainage, Hydrology, and Water Quality,” of this DEIR/DEIS for the details of BMPs to be implemented.</p>					

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	PP	HD	IM	NF	NP
<p><b>Timing:</b> Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the habitat conservation plan, BO, and/or BMPs.</p> <p><b>Enforcement:</b> U.S. Fish and Wildlife Service and City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p> <p><b>PP, HD, IM: Implement Mitigation Measures 3.10-1a and 3.10-1b.</b></p> <p><b>NF, NP: No mitigation measures are required.</b></p> <p><b>PP, HD, IM 3.10-4b: Obtain Incidental Take Permit for Impacts on Valley Elderberry Longhorn Beetle.</b> No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including conservation and minimization measures, intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.</p> <p>Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 7 consultation process with USFWS, but shall be a minimum of “no net loss.” A VELB mitigation plan is currently being developed through ESA Section 7 consultation with USFWS. The mitigation plan will also address the proposed delisting of VELB and any mitigation to be implemented if the delisting occurs prior to project implementation due to requirements under CEQA. Implementation of this plan would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. A copy of the USFWS-approved mitigation plan shall be submitted to the City before the approval of any grading or improvement plans or any ground-disturbing activities within 100 feet of VELB habitat for all project phases.</p> <p>Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.</p> <p><b>Timing:</b> Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the mitigation plan and/or BO.</p> <p><b>Enforcement:</b> U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; California Department of Fish and Game (if VELB delisted); and City of Rancho Cordova Planning Department.</p> <p><b>NF:</b> As long as VELB remains a species protected under ESA, the project applicant(s) shall obtain an incidental take permit under Section 10(a) of ESA for VELB. No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including all conservation and</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>minimization measures. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.</p> <p>Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on VELB, or participate in the SSCHCP, if available. If participation in the SSCHCP is not available or not chosen, the project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that will compensate for the loss of VELB habitat. Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 10(a) consultation process with USFWS, but shall be a minimum of “no net loss.” Based on the current (dated) knowledge of the number of shrubs on-site and the latest VELB preservation guidelines, it is expected that approximately 3,088 seedlings would need to be planted over an area of approximately 25 acres to fulfill VELB mitigation requirements and no net loss of habitat.</p> <p>Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.</p> <p><b>Timing:</b> Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the habitat conservation plan and/or BO.</p> <p><b>Enforcement:</b> California Department of Fish and Game (if VELB delisted), U.S. Fish and Wildlife Service, and City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p> <p><b>PP, HD, IM, NF 3.10-4c: Conduct Preconstruction Surveys for Nesting Raptors and, if Found, Establish Appropriate Buffers.</b> To mitigate impacts on Swainson’s hawk and other raptors (including burrowing owl) for all project phases, the project applicant(s) shall retain a qualified biologist to conduct preconstruction surveys and to identify active nests on and within 0.5 mile of the project site and active burrows on the project site. The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction for all project phases. To the extent feasible, guidelines provided in <i>Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in the Central Valley</i> (Swainson’s Hawk Technical Advisory Committee 2000) shall be followed. If no nests are found, no further mitigation is required.</p> <p>If active nests are found, impacts on nesting Swainson’s hawks and other raptors shall be avoided by establishment of appropriate buffers around the nests. No project activity shall commence within the buffer area until a qualified biologist confirms that any young have fledged and the nest is no longer active. DFG guidelines recommend implementation of 0.25- or 0.5-mile buffers, but the size of the buffer may be adjusted if a qualified biologist and the City, in consultation with DFG, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.</p> <p>If active burrows are found, a mitigation plan shall be submitted to the City for review and approval before any ground-disturbing activities. The City shall consult with DFG. The mitigation plan may consist of installation of one-way doors on all burrows to allow owls to exit, but not reenter, and construction of artificial</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>burrows within the project vicinity, as needed. If active burrows contain eggs and/or young, no construction shall occur within 50 feet of the burrow until young have fledged. Once it is confirmed that there are no owls inside burrows, these burrows may be collapsed.</p> <p><b>Timing:</b> Before the approval of grading and improvement plans, before any ground-disturbing activities, and during project construction as applicable for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p> <p><b>PP, HD, IM, NF: 3.10-4d: Prepare and Implement a Swainson’s Hawk Mitigation Plan.</b> The project applicant(s) for all project phases shall implement one of the following measures:</p> <ul style="list-style-type: none"> <li>▶ Before the approval of grading and improvement plans or before any ground-disturbing activities, whichever occurs first, the project applicant(s) shall preserve, to the satisfaction of the City, suitable Swainson’s hawk foraging habitat to ensure 1:1 mitigation of habitat value for Swainson’s hawk foraging habitat lost as a result of the project, as determined by the City in consultation with DFG and a qualified biologist.</li> </ul> <p>The 1:1 habitat value shall be based on Swainson’s hawk nesting distribution and an assessment of habitat quality, availability, and use within the City’s Planning Area. If specific data for Rancho Cordova’s Swainson’s hawk habitat is not available at the time that this mitigation measure is being implemented, the mitigation ratio shall be consistent with the 1994 DFG Swainson’s Hawk Guidelines included in the <i>Staff Report Regarding Mitigation for Impacts to Swainson’s Hawks (Buteo swainsoni) in the Central Valley of California</i>. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area and within Sacramento County. The City, in consultation with DFG, will determine the appropriateness of the mitigation land.</p> <p>Before approval of such proposed mitigation, the City shall consult with DFG regarding the appropriateness of the mitigation. If mitigation is accomplished through conservation easement, then such an easement shall ensure the continued management of the land to maintain Swainson’s hawk foraging values, including but not limited to ongoing agricultural uses and the maintenance of all existing water rights associated with the land. The conservation easement shall be recordable and shall prohibit any activity that substantially impairs or diminishes the land’s capacity as suitable Swainson’s hawk habitat.</p> <p>The project applicant(s) shall transfer said Swainson’s hawk mitigation land, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and DFG named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, in consultation with DFG. The City, in consultation with DFG and the Conservation Operator, shall approve the content and form of the conservation easement. The City, DFG, and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to assure compliance with the terms of the easement.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>The project applicant(s), in consultation with the City, DFG, and the Conservation Operator, shall establish an endowment or some other financial mechanism that is sufficient to fund in perpetuity the operation, maintenance, management, and enforcement of the conservation easement. If an endowment is used, the endowment funds shall either be submitted to the City to be distributed to an appropriate third-party nonprofit conservation agency, or they shall be submitted directly to the third-party nonprofit conservation agency in exchange for an agreement to manage and maintain the lands in perpetuity. The Conservation Operator shall not sell, lease, or transfer any interest of any conservation easement or mitigation land it acquires without prior written approval of the City and DFG.</p> <p>If the Conservation Operator ceases to exist, the duty to hold, administer, manage, maintain, and enforce the interest shall be transferred to another entity acceptable to the City and DFG. The City Planning Department shall ensure that mitigation habitat is properly established and is functioning as habitat by conducting regular monitoring of the mitigation site(s) for the first 10 years after establishment of the easement. OR</p> <ul style="list-style-type: none"> <li>▶ The project applicant(s) may participate in a future City Swainson’s Hawk Foraging Habitat Ordinance (once adopted) as an alternative to the measure above. OR</li> <li>▶ The project applicant(s) may participate in a future habitat conservation plan (once adopted) as an alternative to the above measures.</li> </ul> <p><b>Timing:</b> Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that would affect Swainson’s hawk foraging habitat.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.10-5: Loss and Degradation of Special-Status Plants and Habitat for Potential Special-Status Plants.</b> Implementation of the project would result in direct and/or indirect impacts on three populations of Greene’s legenera and in the removal of vernal pool grassland, seasonal wetland, and riparian habitat on the project site that have the potential to support special-status plant species.</p>	Direct & Indirect LTS(m)	Direct & Indirect LTS(m)	Direct & Indirect LTS(m)	No Direct, No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM: Incorporate Measures to Protect Greene’s Legenera in the Mitigation and Monitoring Plan.</b> Direct impacts on the population of Greene’s legenera located within the wetland preserve shall be avoided to the maximum extent feasible.</p> <p>A mitigation and monitoring plan for Greene’s legenera is being developed on behalf of the project applicant(s) by ECORP. Before the approval of grading plans or any ground-breaking activity within 250 feet of any Greene’s legenera population, the mitigation plan shall be submitted to the City for review and approval. The plan shall be submitted concurrently to DFG and USFWS for review and comment, and the City may consult with these entities before approval of the plan. The plan is required to maintain viable plant populations on-site and shall include avoidance measures for the existing population to be retained and mitigation</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>measures for the populations to be directly affected. Possible avoidance measures include fencing of the population before construction and exclusion of project activities from the fenced-off areas, and construction monitoring by a qualified botanist to keep construction crews away from the population. Indirect impacts (i.e., changes in hydrology) shall be minimized by placing culverts to the vernal pool where this population occurs, if necessary. Possible mitigation for the two populations of Greene’s legenera that would be removed during construction of the drainage parkway includes the collection of seeds from the existing populations and inoculation of the collected seeds into existing or compensatory vernal pools within the wetland preserve.</p> <p>It is proposed in the mitigation plan that the best option for the successful germination of seeds would be to inoculate existing pools that are similar in size and depth and hydration period, and with similar associated species as the pools that currently support Greene’s legenera. Mitigation for the populations of legenera proposed to be directly affected shall commence before the approval of any plans for, or any ground-breaking activities near, the locations of such legenera populations. Monitoring of the existing population of Greene’s legenera and the seeded populations shall be conducted in conjunction with monitoring of vernal pools for a minimum period of 5 years, as specified in Mitigation Measure 3.10-1.</p> <p><b>Timing:</b> Before the approval of grading or improvement plans or any ground-breaking activity within 250 feet of any Greene’s legenera population, including grubbing and clearing, for any development phase. Ongoing monitoring shall occur for a minimum of 5 years following the completion of all construction activities.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NF, NP:</b> No mitigation measures are required.</p>					
<b>Cumulative</b>					
<p><b>3.10-6: Cumulative Biological Resources Impacts.</b> Implementation of the project together with past, present, and reasonably foreseeable future projects would result in a cumulatively significant loss of biological resources in the region. The project’s incremental contribution to this significant cumulative impact is cumulatively considerable.</p>					
<p><b>PP, HD, IM, NF:</b> Implement Mitigation Measures 3.10-1a, 3.10-1b, 3.10-2a, 3.10-2b, 3.10-3, 3.10-4a, 3.10-4b, 3.10-4c, 3.10-4d, and 3.10-5.</p> <p><b>NP:</b> No mitigation measures are required.</p>					

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	PP	HD	IM	NF	NP
<b>3.11 VISUAL RESOURCES</b>					
<b>Program Level</b>					
<b>3.11-1: Alteration of a Scenic Vista.</b> Project implementation would result in the potential for project-related construction of new homes and businesses to degrade the visual quality of a scenic vista.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.11-2: Damage to Scenic Resources within a State Scenic Highway.</b> Project implementation could result in the potential for adverse changes to an outstanding scenic resource visible from a state scenic highway.	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.11-3: Degradation of Visual Character.</b> Project implementation could substantially alter the visual character of the project site through conversion of an expanse of primarily undeveloped land to developed urban uses.	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF: Require Development to Conform to City General Plan Design Guidelines</b> The project applicant(s) for all project phases shall include design, architectural, development, and maintenance standards in the Rio del Oro Specific Plan that will ensure minimization of impacts to the existing visual character of the site. Through this process the project applicant(s) shall ensure that urban development at the project site is substantially consistent with the Design Guidelines adopted as part of the Rancho Cordova General Plan.					
OR					
Before the approval of building permits, all structures and facilities shall adhere the City’s design review process.					
<b>Timing:</b> Before approval of building permits for all structures within all project phases.					
<b>Enforcement:</b> City of Rancho Cordova Planning Department.					
<b>NP:</b> No mitigation measures are required.					

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	PP	HD	IM	NF	NP
<p><b>3.11-4: Temporary Degradation of Visual Character for Developed Project Land Uses Caused by Construction Staging Areas.</b> Project implementation would involve five phases of construction over a 25- to 30-year buildout period. Construction activity would involve the temporary use of staging areas for construction equipment and materials, which would be visible to adjacent project land uses that have already been developed.</p> <p><b>PP, HD, IM, NF: Screen Construction Staging Areas.</b> The project applicant(s) for all project phases shall locate staging and material storage areas as far away from sensitive land uses (i.e., residential areas, schools, parks) and/or nearby roadways as possible. Staging and material storage areas shall be approved by the City before the approval of grading plans and building permits for all project phases, and shall be screened from adjacent occupied land uses in earlier development phases to the maximum extent practicable. Screens may include berms or fences. The screen design shall be approved by the City to reduce further visual effects to the extent possible.</p> <p><b>Timing:</b> Before approval of grading plans and building permits, and during all phases of construction for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>3.11-5: Temporary Degradation of Visual Character for Future Project-Related Land Uses from Ongoing Mining Activities.</b> Aggregate mining activities could occur on the project site concurrently with project development, which could result in a temporary degradation of visual character for portions of development that are occupied.</p> <p><b>PP, HD, IM, NF: Screen Mining Areas.</b> Before the issuance of certificates of occupancy and final inspections for facilities where mining activities will be visible, the project applicant(s) for all project phases shall visually screen project-related development from mining activities to the maximum extent practicable. If mining activities, including reclamation activities, are anticipated to occur for more than one year after project approval, a combination of fast-growing shrubs and trees shall be planted around mining project boundaries to provide screening. Implement Mitigation Measure 3.16-5.</p> <p><b>Timing:</b> Before the issuance of certificates of occupancy and final inspections for facilities where mining activities will be visible for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.11-6: New Light and Glare Effects.</b> Project implementation would require lighting of new development that could inadvertently cause increased light and glare effects.</p>	<p>Direct &amp; LTS(m), No Indirect</p>	<p>No Direct, No Indirect</p>			
<p><b>PP, HD, IM, NF: Establish and Require Conformance to Lighting Standards and Prepare and Implement a Lighting Plan.</b> To reduce impacts associated with light and glare, the project applicant(s) for all project phases shall conform to the following guidelines:</p> <ul style="list-style-type: none"> <li>▶ Meet the minimum City lighting standards for all project-related lighting. All lighting fixtures shall be designed to be consistent with the Design Guidelines contained in the City General Plan.</li> <li>▶ Shield or screen lighting fixtures to direct the light downward and prevent light spill on adjacent properties.</li> <li>▶ Place and direct flood or area lighting needed for construction activities or for nighttime sporting activities to not disturb adjacent residential areas and passing motorists.</li> <li>▶ Prohibit the use of harsh mercury vapor, low-pressure sodium, or fluorescent bulbs for public lighting in residential neighborhoods.</li> <li>▶ Use appropriate building materials, lighting, and signage in the office/commercial areas to prevent light and glare from adversely affecting motorists on nearby roadways.</li> <li>▶ Design exterior lighting as an integral part of the building and landscape design in the Rio del Oro Specific Plan area. Lighting fixtures shall be architecturally consistent with the overall site design and character and shall be consistent with the City’s Design Guidelines.</li> <li>▶ Establish standards for outdoor lighting to reduce high-intensity nighttime lighting and glare as part of the Rio del Oro Specific Plan design guidelines/standards. Consideration shall be given to design features, namely directional shielding for street lighting, parking lot lighting, and other significant light sources, that will reduce effects of nighttime lighting. In addition, consideration shall be given to the use of automatic shutoffs or motion sensors for lighting features to further reduce excess nighttime light. All nighttime lighting shall be shielded to prevent the light from shining off of the surface intended to be illuminated.</li> </ul> <p>A lighting plan shall be submitted to the City for review and approval which shall include the above elements. The lighting plan may be submitted concurrently with other improvement plans, and shall be submitted before the installation of any lighting or the approval of building permits for all phases. The project applicant(s) of all future phases shall implement the approved lighting plan.</p> <p><b>Timing:</b> Before approval of building permits for all phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning and Public Works Departments.</p> <p><b>NP:</b> No mitigation measures are required.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.11-7: New Skyglow Effects.</b> Project implementation would require lighting of new development which could inadvertently cause increased skyglow effects.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.11-6.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<b>Project Level (Phase 1)</b>					
<p><b>3.11-8: Alteration of a Scenic Vista.</b> Implementation of development Phase 1 would result in the potential for project-related construction of new homes and businesses to degrade the visual quality of a scenic vista.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.11-9: Damage to Scenic Resources within a State Scenic Highway.</b> Implementation of development Phase 1 could result in the potential for adverse changes to an outstanding scenic resource visible from a state scenic highway.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect
<p><b>3.11-10: Degradation of Visual Character.</b> Implementation of development Phase 1 would substantially alter the visual character of the project site through conversion of an expanse of primarily undeveloped land to developed urban uses.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.11-3.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.11-11: Temporary Degradation of Visual Character from Construction Activity and Staging Areas.</b> Implementation of the project would involve several phases of construction over a 25- to 30-year project horizon. Construction activity would involve the temporary use of staging areas for construction equipment and materials. In addition, construction activities would be visible to adjacent sensitive land uses.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.11-4. <b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>3.11-12: Temporary Degradation of Visual Character for Future Project-Related Land Uses from Ongoing Mining Activities.</b> Implementation of development Phase 1 would temporarily occur concurrently with mining operations, which could result in temporary visual character impacts on new residents.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measures 3.11-5 and 3.16-5. <b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>3.11-13: New Light and Glare Effects.</b> Development Phase 1 would require lighting of new development that could inadvertently cause light and glare for motorists on White Rock Road, Sunrise Boulevard, and Douglas Road.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.11-6. <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.11-14: New Skyglow Effects.</b> Development Phase 1 would require lighting of new development which could inadvertently cause nighttime skyglow that would obscure views of stars, constellations, and other features of the night sky.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.11-6. <b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>3.12 PARKS AND RECREATION</b>					
<b>Program Level</b>					
<p><b>3.12-1: Sufficiency of Project Site Parkland to Meet Increased Demand and Potential Increased Use and Deterioration of Existing Facilities.</b> Residential development proposed for the project site would require 5 acres of parkland per 1,000 residents to meet the newly adopted City standards. Project implementation could not increase the demand on existing neighborhood and community parks such that the physical deterioration of the existing facilities would occur or be accelerated.</p> <p><b>HD: Develop a Parkland Plan and Comply with Parkland Requirements.</b> The project applicant(s) for all project phases except Phase 1 shall comply with CRPD’s parkland requirements of 5 acres per 1,000 residents. To satisfy the parkland shortfall that would be created with project implementation, the project applicant(s) shall develop a parkland plan for review and approval by CRPD and the City. The parkland plan shall identify options to meet the standard of 5 acres per 1,000 residents, which may include dedication of additional parkland acreage either on- or off-site, payment of in-lieu fees, or expansion/improvement of existing park facilities.</p> <p><b>Timing:</b> Before approvals of tentative maps for all project phases except Phase 1.</p> <p><b>Enforcement:</b> Cordova Recreation &amp; Park District and City of Rancho Cordova Planning Department.</p> <p><b>PP, IM, NF, NP:</b> No mitigation measures are required.</p>	<p>Direct &amp; B, No Indirect</p>	<p>Direct &amp; Indirect LTS(m)</p>	<p>Direct &amp; B, No Indirect</p>	<p>Direct &amp; B, No Indirect</p>	<p>No Direct, Indirect &amp; B</p>
<b>Project Level (Phase 1)</b>					
<p><b>3.12-2: Sufficiency of Project Site Parkland to Meet Increased Demand and Potential Increased Use and Deterioration of Existing Facilities.</b> Residential development proposed for the project site would require 5 acres of parkland per 1,000 residents to meet newly adopted CRPD standards. Implementation of development Phase 1 would result in a surplus of parkland. This surplus would provide much-needed parkland and would reduce or eliminate additional demand on existing neighborhood and community parks such that the physical deterioration of the existing facilities would not occur or be accelerated.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	<p>Direct &amp; B, No Indirect</p>	<p>Direct &amp; B, No Indirect</p>	<p>Direct &amp; B, No Indirect</p>	<p>Direct &amp; B, No Indirect</p>	<p>No Direct, Indirect &amp; B</p>

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>3.13 HAZARDS AND HAZARDOUS MATERIALS</b>					
<b>Program Level</b>					
<b>3.13-1: Possible Exposure to Contaminated Soil or Groundwater.</b> Construction workers or future residents would not be exposed to contaminated soil or groundwater.	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.13-2: Possible Delays in Development of Future Land Uses from Remediation Activities.</b> Ongoing remediation activities could delay or limit the availability of proposed land uses at or near the site of those remedial activities.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF: 3.13-2a: Require the Project Applicant(s) to Cooperate with Aerojet and Regulatory Agencies to Preserve, Modify, or Close Existing Groundwater Monitoring Wells.</b> The project applicant(s) for all project phases shall submit copies of tentative maps for residential subdivisions and for nonresidential uses to Aerojet, DTSC, and the Central Valley RWQCB or any successor in interest for review and approval. Aerojet, DTSC, and the Central Valley RWQCB or any successor shall work with the project applicant(s) to establish the preservation, modification, or closure of existing groundwater wells. If necessary, Aerojet, MDC, or any successor may purchase lots from the project applicant(s) to maintain access to monitoring wells. Development shall not proceed until DTSC and the Central Valley RWQCB have approved Aerojet's or a successor's plan for well preservation, modification, or closure.</p> <p><b>Timing:</b> Before approval of tentative maps for all project phases.</p> <p><b>Enforcement:</b> California Department of Toxic Substances Control, Central Valley Regional Water Quality Control Board, Aerojet General Corporation, and City of Rancho Cordova Planning Department.</p> <p><b>3.13-2b: Coordinate Development Activities to Avoid Interference with Remediation Activities.</b> The project applicant(s) for all project phases shall provide notice to Aerojet or any successor in interest and DTSC, the Central Valley RWQCB, and the City of the location, nature, and duration of construction activities within each phase of development at least 1 month before the construction activities begin in areas on or near property with current or planned remediation activities. Before the approval of grading plans for all project phases, the project applicant(s) shall work with Aerojet, DTSC, and the Central Valley RWQCB or any successor to schedule the timing of construction activities to prevent potential conflicts with remediation activities.</p> <p><b>Timing:</b> Before approval of grading plans and during construction activities for all project phases.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>Enforcement:</b> California Department of Toxic Substances Control, Central Valley Regional Water Quality Control Board, Aerojet General Corporation, and City of Rancho Cordova Planning Department.</p> <p><b>3.13-2c: Notify the City in Writing that DTSC-Required Notification Obligations Regarding Deed Restrictions and/or Easements Have Been Fulfilled.</b> Pursuant to its oversight over investigations of hazardous substances and determination of remedial action, DTSC establishes, as appropriate, deed restrictions (e.g., restrictions on future groundwater uses or future land uses) or easements (e.g., continued access to groundwater wells and pipelines) on property with associated notice requirements. The project applicant(s) for all such affected project phases shall provide notification in writing to the City that said required DTSC notification obligations have been fulfilled. Evidence of the method of notification required by DTSC shall be submitted to the City before approval of final maps and/or the issuance of permits for sales trailers and model homes. The project applicant(s) for such affected project phases shall coordinate with the City to include this provision as part of tentative map approval.</p> <p><b>Timing:</b> Before approval of final maps and/or issuance of permits for sales trailers and model homes for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.13-3: Possible Exposure to Hazardous Building Materials.</b> Project implementation could result in potential exposure of construction workers to asbestos and/or lead-based paint as a result of demolition of existing on-site structures.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF: Conduct a Hazardous-Building-Materials Study and Implement all Applicable Regulations.</b> Before the approval of demolition permits for any existing on-site buildings, the project applicant(s) for all project phases, except development Phase 1 shall hire a qualified consultant to investigate whether any of the existing on-site structures contain lead or ACMs that could become friable or mobile during demolition activities. If lead-containing materials or ACMs are found, the project applicant(s) shall coordinate with the County Environmental Management Department to ensure that such materials are properly removed (i.e., by an accredited inspector in accordance with EPA and Cal-OSHA standards). In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal-OSHA standards related to exposure of workers to asbestos and lead. The lead-containing materials and ACMs shall be handled properly and transported to an appropriate off-site disposal facility.</p> <p><b>Timing:</b> Before approval of demolition permits for existing on-site structures and during all demolition activities for all project phases, except development Phase 1.</p> <p><b>Enforcement:</b> County of Sacramento Environmental Management Department and City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.13-4: Use of Hazardous Materials On-Site.</b> Project implementation would involve the storage, use, and transport of hazardous materials at the project site during demolition, construction, and operation activities.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.13-5: Potential Safety Hazards from Construction Activities and Mining Operations.</b> Ongoing project-related construction activities and nonproject-related mining operations could disrupt the surrounding residential and commercial uses and result in potential safety hazards to construction workers and residents.</p> <p><b>PP, HD, IM, NF: Implement Public-Safety Features during Construction Activities and Mining Operations.</b> The following public-safety protection features shall be implemented before the approval of grading plans and building permits for all project phases, and before issuance of future mining permits.</p> <ul style="list-style-type: none"> <li>▶ Temporary fencing shall be installed around construction areas with signage indicating the presence of an active construction zone, and warning the public to keep out.</li> <li>▶ Temporary fencing shall be installed around mining areas with signage indicating the presence of active mining operations, and warning the public to keep out.</li> <li>▶ Mining equipment shall not be operated and mining activities shall not occur within 1,100 feet of any noise-sensitive receptor, or within 375 feet if a temporary barrier is constructed in accordance with the following specifications:                             <ul style="list-style-type: none"> <li>• The barrier shall be located as close to the noise source or as close to the receptor as possible and shall break the line of sight between the source and receptor.</li> <li>• The barrier shall be constructed with three-quarter-inch Medium Density Overlay (MDO) plywood sheeting, or other acceptable material having a surface weight of 2 pounds per square foot (lb/sf) or greater, and a demonstrated Sound Transmission Class (STC) rating of 25 or greater as defined by American Society for Testing and Materials (ASTM) Test Method E90.</li> <li>• Weather- and abuse-resistant material shall be used for a temporary acoustical curtain. The material shall exhibit superior hanging and tear strength during construction with a surface weight of at least 1 lb/sf. The material shall have a minimum breaking strength of 120 pound per inch (lb/in) per Federal Test Method Standard (FTMS) 191 A-M5102 and minimum tear strength of 30 lb/in per ASTM Test Method D117. Based on the same test procedures, the absorptive material facing shall have a minimum breaking strength of 100 lb/in and minimum tear strength of 7 lb/in. The material shall have a STC rating of 25 or greater, based on certified sound transmission loss data taken according to ASTM Test Method E90. It shall also have a Noise Reduction Coefficient (NRC) rating of 0.70 or greater, based on certified sound absorption coefficient data according to ASTM Test Method C423.</li> </ul> </li> </ul>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> <li>The mating surfaces of the barrier sides shall be installed flush with each other. Gaps between barrier units, and between the bottom edge of the barrier panels and the ground, shall be closed with material that will completely close the gaps, and be dense enough to attenuate noise.</li> </ul> <p><b>Timing:</b> Before the approval of grading plans and building permits for all project phases, and before issuance of future mining permits, and during all project construction for all project phases and mining activities.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department and Building and Safety Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.13-6: Human Health Hazards Associated with Mosquitoborne Diseases.</b> Construction workers or future residents could be exposed to an increased risk of mosquito-borne diseases.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	LTS
<p><b>PP, HD, IM, NF: Develop and Implement Site-Specific Wetland Mosquito Management Guidelines.</b> Before the start of construction activities for all project phases, the project applicant(s) shall develop a set of site-specific Wetland Mosquito Management Guidelines. The guidelines shall be submitted to the City for review and approval. The project applicant(s) shall implement the guidelines once they have been approved.</p> <p><b>Timing:</b> Before the start of construction activities and as specified in the guidelines for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department and Building and Safety Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<b>Project Level (Phase 1)</b>					
<p><b>3.13-7: Possible Exposure to Contaminated Soil or Groundwater.</b> Construction workers or future residents would not be exposed to contaminated soil or groundwater during Phase 1 development.</p>	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.13-8: Possible Delays in Development of Future Land Uses from Remediation Activities.</b> Ongoing remediation activities could delay or limit the availability of proposed development Phase 1 land uses at or near the site of those remedial activities.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measures 3.13-2a, 3.13-2b, and 3.13-2c. <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.13-9: Possible Exposure to Hazardous Building Materials.</b> Construction workers could be exposed to asbestos and/or lead-containing materials as a result of demolition of existing on-site structures during implementation of development Phase 1.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect	No Direct, No Indirect
<p><b>3.13-10: Use of Hazardous Materials On-Site.</b> Implementation of development Phase 1 would involve the storage, use, and transport of hazardous materials at the project site during construction and operation activities.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.13-11: Potential Safety Hazards from Construction Activities and Mining Operations.</b> Ongoing project-related construction activities and nonproject-related mining operations could result in disruption of the surrounding residential and commercial uses and result in potential safety hazards to construction workers and residents during implementation of development Phase 1.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.13-5. <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.13-12: Human Health Hazards Associated with Mosquitoborne Diseases.</b> Construction workers or future residents associated with development Phase 1 could be exposed to an increased risk of mosquito-borne diseases.</p>	Direct & LTS(m), No	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	LTS

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.13-6.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Indirect				
<b>3.14 TRAFFIC AND TRANSPORTATION</b>					
<b>Program Level and Project Level (Phase 1)</b>					
<p><b>*Note: No Federal Action Alternative</b>—This alternative reflects the Proposed Project Alternative as it would be if no Section 404 of the Clean Water Act permits were issued for development of the project site. Land use totals under the No Federal Action Alternative are consistent with those under the Proposed Project Alternative (with higher densities of land use), but roadway network connectivity is dramatically different. Rancho Cordova Parkway and Americanos Boulevard would terminate within the Rio del Oro project site and would not extend southward to Douglas Road. The lack of roadway connectivity for this alternative would decrease traffic volumes on most roadways within the project. However, Sunrise Boulevard, Grant Line Road, White Rock Road, and Rio del Oro Parkway would incur additional traffic burdens, such that significant impacts on these facilities would occur. Additionally, a similar effect would occur at the interchanges with U.S. 50 in the project study area. It should be noted that this alternative is inconsistent with the City General Plan Circulation Element/Plan. This alternative would result in increased impacts on transportation infrastructure outside the Rio del Oro Specific Plan area. Implementation of this alternative would result in <b>significant and unavoidable</b> impacts. No feasible mitigation is available to reduce impacts under this alternative to a less-than-significant level because the project would not provide an internal roadway network that would be feasible, nor would project roadways connect appropriately to the City’s planned circulation network under the City Circulation Element/Plan, thus resulting in additional traffic burden on transportation infrastructure outside of the project site.</p>					
<p><b>3.14-1: Increases to Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service.</b> Implementation of development Phase 1 (i.e., the Baseline Plus Phase 1 scenario) and buildout of the specific plan (i.e., the Baseline Plus Full Buildout scenario) would cause an increase in a.m. peak-hour, p.m. peak-hour, and/or daily traffic volumes on area roadways, resulting in unacceptable levels of service (LOS) and warranting the need for improvements such as traffic signals and additional lanes.</p>	See below for Direct; No Indirect	See below for Direct; No Indirect	See below for Direct; No Indirect	See Note above for Direct & Indirect	No Direct, No Indirect
<p><b>Mitigation Measure Common to All Impacts under Impact 3.14-1</b></p> <p>To avoid repetition, the information contained in the following mitigation measure applies to all other mitigation measures required under Impact 3.14-1. Note that no mitigation measures are required for the No Project Alternative because, as described above, no direct or indirect impacts would occur.</p> <p><b>PP, HD, IM:</b> The project applicant(s) for all project phases shall participate in the necessary improvements identified in all of the following mitigation measures. The project’s fair-share participation and the associated timing of the improvements shall be identified in the project conditions of approval and in the mitigation</p>					

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<p>monitoring and reporting program for the project or in conjunction with and as an appendix to the specific plan (see mitigation measures following each identified impact).</p> <p>The timing and enforcement (described below) would be the same for all identified mitigation measures associated with Impact 3.14-1.</p> <p><b>Timing:</b> As a condition of project approval and/or as a condition of the development agreement for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p>Please note that the improvements described in each of the following mitigation measures have not been designed, and therefore, project-specific impacts resulting from these improvements cannot be precisely identified or quantified.</p> <p>If need be, the site-specific impacts of the identified improvements will be assessed pursuant to CEQA requirements when specific intersection and roadway improvement plans are developed, separate from the Rio del Oro DEIR/DEIS. Any such necessary environmental review will be completed before final approval of the improvements identified in the mitigation measures. No such additional review may be necessary, however, if the effects of such improvements are consistent with what can generally be expected of such improvements, as set forth immediately below.</p> <p>Based on review of existing available environmental documentation, field review at a reconnaissance level, and review of aerial photography, it is anticipated that, at worst, the construction of these intersection and roadway improvements could directly adversely affect wetland resources and associated grassland habitat area and could result in construction-related environmental effects, including but not limited to:</p> <ul style="list-style-type: none"> <li>▶ impacts related to construction traffic, noise, air quality, water quality, and drainage;</li> <li>▶ impacts on cultural resources; and</li> <li>▶ impacts on special-status plants and animals and their habitats.</li> </ul> <p>In addition to construction-related impacts, implementation of these improvements could result in long-term effects on water quality and drainage. The impacts that could arise from the planned improvements would be measured using the significance thresholds identified in each section of Chapter 3 of this DEIR/DEIS.</p> <p>Once a planned roadway is designed, the City would retain a qualified biologist to conduct a reconnaissance survey to determine the type(s) of habitat to be removed, and whether wetlands or special-status species are present. The City would also conduct a cultural resources records search to determine whether any known cultural resources are present.</p> <p>The mitigation measures recommended in Chapter 3 of this DEIR/DEIS would be applied (where applicable) to mitigate any such effects, if significant, to less-than-significant levels. For example, measures would be implemented to ensure no net loss of wetlands. Best management practices and Sacramento Metropolitan Air Quality Management District measures would be implemented for water and air quality effects, and preconstruction surveys would be performed where sensitive habitat is present (and if special-status species or habitat is present, the biological resources protection measures would be implemented). The relocation of any utility pole or other utilities would be coordinated with the appropriate service provider to ensure that there would be no impact on the service provider. Additionally, if permits or other authorizations are required, they would be secured and the conditions would be followed.</p>					

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<p>For improvements to the following intersections and roadway improvements, the following impacts (in addition to the above) could result from implementation of required improvements:</p> <ul style="list-style-type: none"> <li>▶ Direct impacts on the Folsom South Canal from implementation of the Zinfandel Drive and International Drive Extensions—Sunrise Boulevard/Douglas Road, Sunrise Boulevard/White Rock Road, and Sunrise Boulevard/Folsom Boulevard intersections (Intersections 9, 18, and 19, respectively)</li> <li>▶ Direct impacts from the required grade separation structure—Sunrise Boulevard/Zinfandel Drive intersection (Intersection 22)</li> <li>▶ Direct impacts from potential widening of the structure across U.S. 50—Hazel Avenue/U.S. 50 eastbound ramps and Hazel Avenue/U.S. 50 westbound ramps intersections (Intersections 24 and 25, respectively)</li> <li>▶ Direct impacts on the Folsom South Canal from implementation of the International Drive Extension—Kilgore Road/White Rock Road intersection (Intersection 27)</li> <li>▶ Direct impacts from required widening of the existing crossing of the Folsom South Canal—Douglas Road between Mather Boulevard and Sunrise Boulevard (Roadway Segment 5)</li> <li>▶ Direct impacts from potential removal of approximately 40 large trees (primarily oak trees) and associated (primarily grassland) vegetation, and approximately 100 power poles, resulting from improvements to White Rock Road between Sunrise Boulevard and Grant Line Road (Roadway Segment 9)</li> <li>▶ Direct impacts from required new river crossings of the American River—Sunrise Boulevard between Gold Country Boulevard and Coloma Road and Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps (Roadway Segments 17 and 18, respectively)</li> <li>▶ Direct impacts from potential removal of approximately 80 utility poles, 60 street lights, approximately 50 large trees, and commercial/industrial property, resulting from improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20)</li> <li>▶ Direct impacts from potential removal of approximately 60 utility poles, 100 street lights, approximately 40 large trees (primarily oak trees and landscaped trees), and commercial/industrial property, resulting from improvements to Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21)</li> <li>▶ Direct impacts from potential removal of approximately 35 utility poles and two trees, as well as other vegetation, resulting from improvements to Douglas Road between Jaeger Road and Sunrise Boulevard (Roadway Segment 31)</li> <li>▶ Direct impacts from potential removal of approximately 50 power poles, resulting from improvements to Sunrise Boulevard between Douglas Road and Kiefer Boulevard (Roadway Segment 33)</li> <li>▶ Direct impacts on an already congested Sunrise Boulevard corridor.</li> </ul> <p>Regarding the Sunrise Boulevard corridor, phasing of circulation improvements, consistent with the City’s Infrastructure Phasing Plan, would aid in minimizing impacts on intersections and roadway segments on Sunrise Boulevard and should be considered when prioritizing improvements for implementation.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1a: Unacceptable LOS at the SR 16/Excelsior Road Intersection (Intersection 1).</b> Signalized intersection operations at SR 16/Excelsior Road would degrade from LOS E to LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic both under both development Phase 1 and full project buildout</p> <p><b>PP, HD, IM: Participate in Improvements to the SR 16/Excelsior Road Intersection (Intersection 1).</b> To ensure that the SR 16/Excelsior Road intersection operates at an acceptable LOS, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one shared through/right-turn lane.</li> <li>▶ The southbound approach must be reconfigured to consist of two left-turn lanes, two through lanes, and one right-turn lane.</li> <li>▶ The eastbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one right-turn lane.</li> <li>▶ The westbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.</li> </ul> <p>These improvements would require widening of SR 16 east and west of the intersection to accommodate the additional lanes.</p> <p>Improvements to the SR 16/Excelsior Road intersection are contained within the <i>SunRidge Specific Plan Public Facilities Financing Plan</i> and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/SunRidge Specific Plan Project state that physical improvement of this intersection is feasible. Implementation of the improvements described above would assist in reducing traffic impacts on this intersection by providing acceptable operations. If these improvements are completed concurrent with development of the SunRidge Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p> <p>Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1b: Unacceptable LOS at the SR 16/Eagles Nest Road Intersection (Intersection 2).</b> The unsignalized intersection of SR 16/Eagles Nest Road would operate at LOS F during the a.m. and p.m. peak traffic hours with and without project-related traffic both under development Phase 1 and at full project buildout. Project-related traffic would increase the delay for the worst-case approach at this intersection by more than 5 seconds during the peak traffic hours.</p> <p><b>PP, HD, IM: Participate in Improvements at the SR 16/Eagles Nest Road Intersection (Intersection 2).</b> To ensure that the SR 16/Eagles Nest Road intersection operates at an acceptable LOS, a traffic signal must be installed at this intersection, and the eastbound and westbound approaches must be reconfigured to consist of one</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>left-turn lane, one through lane, and one shared through/right-turn lane.</p> <p>These improvements would require widening of SR 16 for 1,000 feet on both sides of this intersection to accommodate the additional through lanes.</p> <p>Improvements to the SR 16/Eagles Nest Road intersection are contained within the <i>SunRidge Specific Plan Public Facilities Financing Plan</i> and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/SunRidge Specific Plan Project state that physical improvement of this intersection is feasible. Implementation of the improvements described above, including the necessary widening of SR 16, would assist in reducing traffic impacts on this intersection. If these improvements are completed concurrent with development of the SunRidge Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p> <p>Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-1c: Unacceptable LOS at the SR 16/Sunrise Boulevard Intersection (Intersection 3).</b> The signalized intersection of SR 16/Sunrise Boulevard would operate at LOS F during the a.m. and p.m. peak traffic hours with and without project-related traffic both under development Phase 1 and at full project buildout. Project-related traffic would increase the critical V/C ratio by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the SR 16/Sunrise Boulevard Intersection (Intersection 3).</b> To ensure that the SR 16/Sunrise Boulevard intersection operates at an acceptable LOS, the northbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one shared through/right-turn lane; and the southbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.</p> <p>An additional through lane would be needed in the eastbound and westbound directions, which would require widening of SR 16 on both sides of the intersection for a minimum of 1,000 feet in both directions. With these improvements, this intersection would operate at an acceptable LOS.</p> <p>Improvements to the SR 16/Sunrise Boulevard intersection are contained within the County Development Fee Program, are scheduled for Measure A funding, and are within the <i>Mather Field Specific Plan Financing Plan</i>. Implementation of the improvements described above, including the necessary widening of SR 16, would assist in reducing traffic impacts on this intersection. If these improvements are completed concurrent with development of the Mather Field Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p> <p>Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.					
<p><b>3.14-1d: Unacceptable LOS at the SR 16/Grant Line Road Intersection (Intersection 4).</b> The signalized intersection of SR 16/Grant Line Road would operate at LOS F during the a.m. and p.m. peak traffic hours with and without project-related traffic both under development Phase 1 and at full project buildout. However, project-related traffic would also increase the V/C ratio by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the SR 16/Grant Line Road Intersection (Intersection 4).</b> To ensure that the SR 16/Grant Line Road intersection operates at an acceptable LOS, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound and southbound approaches must be reconfigured to consist of one left-turn lane and one shared through/right-turn lane.</li> <li>▶ Protected left-turn signal phasing must be provided on the northbound and southbound approaches.</li> <li>▶ The eastbound and westbound approaches must be reconfigured to consist of one left-turn lane, one through lane, and a shared through/right-turn lane.</li> </ul> <p>These improvements would require widening of SR 16 1,000 feet on both sides of the intersection.</p> <p>Improvements to the SR 16/Grant Line Road intersection are contained within the County Development Fee Program, are scheduled for Measure A funding, and are within the <i>Mather Field Specific Plan Financing Plan</i>. Implementation of the improvements described above, including the necessary widening of SR 16, would assist in reducing traffic impacts on this intersection; with them, this intersection would operate at an acceptable LOS. If these improvements are completed concurrent with development of the Mather Field Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p> <p>Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1e: Unacceptable LOS at the Florin Road/Sunrise Boulevard Intersection (Intersection 5).</b> Signalized intersection operations at Florin Road/Sunrise Boulevard would degrade from LOS C to LOS E during the p.m. peak traffic hour with project-related traffic from development Phase 1, and from LOS C to LOS F during the p.m. peak traffic hour with the traffic under full project buildout.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to the Florin Road/Sunrise Boulevard Intersection (Intersection 5).</b> To ensure that the Florin Road/Sunrise Boulevard intersection operates at an acceptable LOS, the southbound approach must be reconfigured to consist of one through lane and one dedicated right-turn lane. Improvements to this intersection must be coordinated with the County and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-1f: Unacceptable LOS at the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6).</b> Unsignalized intersection operations at Grant Line Road/Sunrise Boulevard would degrade from an acceptable LOS E during the a.m. peak traffic hour and an unacceptable LOS F during the p.m. peak traffic hour, to an unacceptable LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic from development Phase 1 and full project buildout. In addition, project traffic would increase delay on the worst-case approach by more than 5 seconds during the p.m. peak traffic hour.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements to the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6).</b> To ensure that the Grant Line Road/Sunrise Boulevard intersection operates at an acceptable LOS, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ A traffic signal must be installed at this intersection.</li> <li>▶ The southbound approach must be reconfigured to consist of one left-turn lane, one through lane, and two dedicated right-turn lanes.</li> <li>▶ The northbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one right-turn lane.</li> <li>▶ Protected left-turn phases must be provided on the northbound and southbound approaches.</li> <li>▶ A second eastbound left-turn lane must be added.</li> <li>▶ Adequate receiving lanes must be provided on Sunrise Boulevard and Grant Line Road to accommodate the identified intersection geometrics.</li> </ul> <p>Interim improvements to the Grant Line Road/Sunrise Boulevard intersection are contained within the Elk Grove West Vineyard Plan, with ultimate improvements within the <i>Vineyard Springs Comprehensive Plan Public Facilities Financing Plan</i>. Implementation of the improvements described above would assist in reducing traffic impacts on this intersection. If the improvements are completed concurrent with development of the West Vineyard Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p> <p>Improvements to this intersection must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					

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	PP	HD	IM	NF	NP
<p><b>3.14-1g: Unacceptable LOS at the Grant Line Road/Douglas Road Intersection (Intersection 8).</b> Unsignalized intersection operations at Grant Line Road/Douglas Road would degrade from LOS E during the a.m. peak traffic hour and LOS D during the p.m. peak traffic hour to LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic from development Phase 1 and full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to the Grant Line Road/Douglas Road Intersection (Intersection 8).</b> To ensure that the Grant Line Road/Douglas Road intersection operates at an acceptable LOS, a traffic signal must be installed at this intersection.</p> <p>Improvements to the Grant Line Road/Douglas Road intersection are contained within the <i>SunRidge Specific Plan Public Facilities Financing Plan</i>. Implementation of the improvement described above would assist in reducing traffic impacts on this intersection. If this improvement is completed concurrent with development of the SunRidge Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-1h: Unacceptable LOS at the Sunrise Boulevard/Douglas Road Intersection (Intersection 9).</b> Signalized intersection operations at Sunrise Boulevard/Douglas Road would degrade from LOS F during the a.m. peak traffic hour and LOS E during the p.m. peak traffic hour, to LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic from development Phase 1 and full project buildout. In addition, project traffic would increase the V/C ratio at the intersection by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/Douglas Road Intersection (Intersection 9).</b> Improvements must be made to ensure that the Sunrise Boulevard/Douglas Road intersection operates at an acceptable LOS. Specifically, all approaches must be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane. However, with implementation of this improvement, the intersection would continue to operate at an unacceptable LOS E or LOS F.</p> <p>To further improve operations at the intersection, additional roadway connectivity is required. To achieve this connectivity, the Zinfandel Drive Extension must be implemented (to accommodate traffic generated within the SunRidge Specific Plan area), International Drive must be extended to Sunrise Boulevard and into and through the Rio del Oro project site, and Rancho Cordova Parkway (and its connection to U.S. 50) must be implemented.</p> <p>Improvements to this intersection are contained within the <i>SunRidge Specific Plan Public Facilities Financing Plan</i>. The extension of Zinfandel Drive is identified as part of the <i>Mather Field Specific Plan Public Facilities Financing Plan</i>. Funding has been identified for Rancho Cordova Parkway and the interchange and for the extension of International Drive to Sunrise Boulevard within the City’s CIP program. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the Zinfandel Drive Extension falls under the jurisdiction of the County, and Rancho Cordova Parkway and the associated interchange fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation of these improvements.</p>					
<p><b>3.14-1i: Unacceptable LOS at the Mather Field Road/U.S. 50 Eastbound Ramps (Intersection 12).</b> Signalized intersection operations at Mather Field Road/U.S. 50 eastbound ramps would degrade from LOS D during the a.m. peak traffic hour to LOS F during both the a.m. peak traffic hour with project-related traffic from full project buildout.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements to the Mather Field Road/U.S. 50 Eastbound Ramps Intersection (Intersection 12).</b> Improvements must be made to ensure that the Mather Field Road/U.S. 50 eastbound ramps intersection operates at an acceptable LOS. Specifically, the eastbound ramp needs modification to make the eastbound right turn a “free” movement. This would require a receiving lane on Mather Field Road, south of the intersection.</p> <p>To further improve operations at the intersection, additional roadway connectivity is required. To achieve this connectivity, the Zinfandel Drive Extension must be implemented (to accommodate traffic generated within the SunRidge Specific Plan area), International Drive must be extended to Sunrise Boulevard and into and through the Rio del Oro project site, and Rancho Cordova Parkway (and its connection to U.S. 50) must be implemented.</p> <p>The extension of Zinfandel Drive is identified as part of the <i>Mather Field Specific Plan Public Facilities Financing Plan</i>. Funding has been identified for Rancho Cordova Parkway and the interchange and for the extension of International Drive to Sunrise Boulevard within the City’s CIP program. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection.</p> <p>Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements are ultimately under the jurisdiction of Caltrans. The Zinfandel Drive Extension falls under the jurisdiction of the County, and Rancho Cordova Parkway and its associated interchange falls under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over the timing or implementation of these improvements.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1j: Unacceptable LOS at the Zinfandel Drive/White Rock Road Intersection (Intersection 15).</b> Signalized intersection operations at Zinfandel Drive/White Rock Road would degrade from an unacceptable LOS E to an unacceptable LOS F during the a.m. peak traffic hour with project-related traffic from development Phase 1 and full project buildout. This intersection would operate at an unacceptable level both with and without project traffic. However, the V/C ratio at the intersection would increase by more than 0.05 with project traffic.</p> <p><b>PP, HD, IM:</b> Participate in Improvements to the Zinfandel Drive/White Rock Road Intersection (Intersection 15). To offset project-related impacts at the Zinfandel Drive/White Rock Road intersection, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The southbound approach must be reconfigured to consist of three left-turn lanes, two through lanes, and one right-turn lane.</li> <li>▶ The eastbound approach must be reconfigured to consist of two left-turn lanes, two through lanes, and one shared through/right-turn lane.</li> <li>▶ The westbound approach must be reconfigured to consist of two left-turn lanes, three through lanes, and one free right-turn lane.</li> </ul> <p>Although these improvements offset the impacts of the project, this intersection would still operate at an unacceptable LOS. Additional improvements must be made to satisfy the City’s LOS D threshold, including additional roadway connectivity such as the extension of International Drive to Sunrise Boulevard, extension of Kiefer Boulevard, and implementation of Rancho Cordova Parkway (and its connection to U.S. 50).</p> <p>Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-1k: Unacceptable LOS at the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16).</b> Signalized intersection operations at Zinfandel Drive/U.S. 50 eastbound ramps would degrade from an acceptable LOS E to an unacceptable LOS F during the a.m. peak traffic hour with project-related traffic from development Phase 1 and full project buildout. Although the intersection would operate at an unacceptable LOS F during the p.m. peak traffic hour both with and without project traffic, the V/C ratio at this intersection would increase by more than 0.05 with project traffic.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16).</b> To ensure that the Zinfandel Drive/U.S. 50 eastbound ramps intersection operates at an acceptable LOS, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach must be reconfigured to consist of four through lanes and one shared through/right-turn lane.</li> <li>▶ The eastbound approach must be reconfigured to consist of three left-turn lanes, one through lane, and one free right-turn lane.</li> <li>▶ The westbound approach must be reconfigured to consist of three right-turn lanes.</li> <li>▶ The southbound approach must be reconfigured to consist of three through lanes and a free right-turn lane.</li> </ul> <p>Improvements to this intersection are identified in the City’s CIP. Implementation of the improvements identified above would assist in reducing traffic impacts on the intersection. These improvements must be coordinated with Caltrans and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because these identified improvements fall under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over their timing or implementation</p>					
<p><b>3.14-11: Unacceptable LOS at the Sunrise Boulevard/White Rock Road Intersection (Intersection 18).</b> The signalized intersection of Sunrise Boulevard/White Rock Road would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours both with and without project-related traffic, both under development Phase 1 and at full project buildout. However, the addition of project traffic would also increase the V/C ratio at the intersection by more than 0.05 during the a.m. and p.m. peak traffic hours.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/White Rock Road Intersection (Intersection 18).</b> With two left-turn lanes, three through lanes, and one right-turn lane currently on all approaches, the Sunrise Boulevard/White Rock Road intersection would continue to operate at an unacceptable LOS as a result of sufficiently high volumes from traffic generated by the SunRidge Specific Plan and Rio del Oro Specific Plan. Therefore, to ensure that this intersection operates at an acceptable LOS, additional improvements must be made, such as grade separation of the intersection (consistent with the City’s Circulation Element/Plan) and/or additional roadway facilities such as the Zinfandel Drive Extension, International Drive Extension into and through the Rio del Oro project site, and implementation of Rancho Cordova Parkway (and its connection to U.S. 50).</p> <p>Improvements to this intersection and identified additional roadway connectivity are identified in the <i>Mather Field Specific Plan Public Facilities Financing Plan</i> (Zinfandel Drive Extension) or the City’s CIP. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection. If these improvements are completed concurrent with development of the Mather Field Specific Plan or City’s Public Facilities Financing Plan and implemented before development Phase 1 of Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p> <p>Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p>	SU(m)	SU(m)	SU(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.					
<p><b>3.14-1m: Unacceptable LOS at the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19).</b> Signalized intersection operations at Sunrise Boulevard/Folsom Boulevard would degrade from an acceptable LOS B during the a.m. peak traffic hour and LOS D during the p.m. peak traffic hour to an unacceptable LOS E and LOS F, respectively, with traffic from development Phase 1. The addition of project traffic under full buildout would cause a degradation to an unacceptable LOS F during both the a.m. and p.m. peak traffic hours.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19).</b> Improvements must be made to ensure that the Sunrise Boulevard/Folsom Boulevard intersection operates at an acceptable LOS both with implementation of development Phase 1 and at buildout of the specific plan under any of the development alternatives. Specifically, to reduce impacts of development Phase 1, two left-turn lanes, four through lanes, and one right-turn lane should be added on the northbound and southbound approaches; and the westbound approach should be reconfigured to consist of two left-turn lanes, two through lanes, and two right-turn lanes. To reduce impacts associated with specific plan buildout, all of the following improvements should be made:</p> <ul style="list-style-type: none"> <li>▶ Two left-turn lanes, four through lanes, and one right-turn lane should be added on the southbound approach.</li> <li>▶ Two left-turn lanes, four through lanes, and one shared through/right-turn lane should be added on the northbound approach.</li> <li>▶ Two left-turn lanes, two through lanes, and two right-turn lanes should be added on the westbound approach.</li> </ul> <p>Implementing the improvements described above would provide acceptable operations at this intersection. However, doing so would require Sunrise Boulevard to expand to eight or more lanes, which is inconsistent with the City’s Circulation Element/Plan because City policy requires roadway cross sections of six or fewer lanes.</p> <p>An alternative to these improvements is to implement parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), Zinfandel Drive Extension, International Drive Extension into and through the Rio del Oro project site, and realignment of International Drive with Old Placerville Road (with associated roadway improvements). Implementing these alternative improvements would improve operations at and assist in reducing traffic impacts on this intersection.</p> <p>Some of the improvements described above are identified in the <i>Mather Field Specific Plan Public Facilities Financing Plan</i> (Zinfandel Drive Extension) and the City’s CIP. Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the required expansion of Sunrise Boulevard is inconsistent with the City’s Circulation Element/Plan. Some of the identified parallel capacity improvements fall under their jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1n: Unacceptable LOS at the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21).</b> The signalized intersection of Sunrise Boulevard/U.S. 50 westbound ramps would have sufficient capacity to serve expected demands during the a.m. and p.m. peak traffic hours without project-related traffic. With traffic at full project buildout, operations during the p.m. peak hour are expected to degrade to LOS E, an unacceptable level within the City of Rancho Cordova.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21).</b> Improvements must be made to ensure that the Sunrise Boulevard/U.S. 50 westbound ramps intersection operates at an acceptable LOS. Specifically, the westbound approach would need to consist of three left-turn lanes and two right-turn lanes.</p> <p>Improvements to this interchange are identified in the City’s CIP program.</p> <p>An alternative to these improvements is to implement parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), Zinfandel Drive Extension, International Drive Extension into and through the Rio del Oro project site, and realignment of International Drive with Old Placerville Road (with associated roadway improvements). Implementing these alternative improvements would improve operations at and assist in reducing traffic impacts on this intersection.</p> <p>Some of the improvements described above are identified in the <i>Mather Field Specific Plan Public Facilities Financing Plan</i> (Zinfandel Drive Extension) and the City’s CIP. Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the intersection falls under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1o: Unacceptable LOS at the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22).</b> The signalized intersection of Sunrise Boulevard/Zinfandel Drive would operate at LOS F during the a.m. and p.m. peak traffic hours with project traffic both under development Phase 1 and at full project buildout. However, the addition of project traffic would also increase the V/C ratio by 0.05 or more during the a.m. and p.m. peak traffic hours.</p>	SU(m)	SU(m)	SU(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22).</b> Improvements must be made to ensure that the Sunrise Boulevard/Zinfandel Drive intersection operates at an acceptable LOS. Specifically, all of the following improvements should be made:</p> <ul style="list-style-type: none"> <li>▶ Two left-turn lanes, three through lanes, and one shared through/right-turn lane should be added on the northbound approach.</li> <li>▶ One left-turn lane, four through lanes, and one right-turn lane (with treatment to increase capacity such as a receiving lane or pork-chop island) should be added on the southbound approach. (A pork-chop island is a triangular island placed adjacent to a free right-turn lane. It separates right-turning vehicles from through lanes and provides a refuge for pedestrians to cross the right-turn lane before crossing the through lanes.)</li> <li>▶ One left-turn lane, one through lane, and one right-turn lane should be added on the eastbound approach.</li> <li>▶ One left-turn lane and one shared through/right-turn lane should be added on the westbound approach.</li> </ul> <p>These at-grade improvements are consistent with the County Mobility Study; however, they would be inconsistent with the City’s Circulation Element/Plan, which identifies the segment as a six-lane facility.</p> <p>An alternative to this set of improvements that is consistent with the City’s Circulation Element/Plan is to implement grade separation at the intersection. Either improvement would increase capacity at this intersection and would assist in improving intersection operations.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the required expansion of Sunrise Boulevard is inconsistent with the City’s Circulation Element/Plan, and because the required structure for the alternative improvement (grade separation) would likely have other significant impacts that have not been identified.</p>					
<p><b>3.14-1p: Unacceptable LOS at the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23).</b> Signalized intersection operations at Hazel Avenue/Folsom Boulevard would degrade from an acceptable LOS D during the p.m. peak traffic hour to LOS E both under development Phase 1 and at full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23).</b> To ensure that the Hazel Avenue/Folsom Boulevard intersection operates at an acceptable LOS, the westbound approach must be reconfigured to consist of one left-turn lane, one through lane, and two right-turn lanes.</p> <p>An alternative to this improvement that is consistent with the City’s Circulation Element/Plan is to implement parallel capacity improvements, such as Easton Valley Parkway and upgrades to White Rock Road.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because most of the identified improvements fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1q: Unacceptable LOS at the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24).</b> Signalized intersection operations at Hazel Avenue/U.S. 50 eastbound ramps would degrade from LOS E to LOS F during the p.m. peak traffic hour with project traffic both under development Phase 1 and at full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24).</b> To ensure that the Hazel Avenue/U.S. 50 eastbound ramps intersection operates at an acceptable LOS, an additional eastbound left-turn lane must be installed, with an appropriate receiving lane. Improvements to this intersection must be coordinated with Caltrans and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because some of the identified improvements fall under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1r: Unacceptable LOS at the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25).</b> Signalized intersection operations at Hazel Avenue/U.S. 50 westbound ramps would degrade from LOS D to LOS E during the p.m. peak traffic hour with the addition of project traffic, both under development Phase 1 and at full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25).</b> To ensure that the Hazel Avenue/U.S. 50 westbound ramps intersection operates at an acceptable LOS, an additional westbound right-turn lane must be installed on the off-ramp. Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because some of the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1s: Unacceptable LOS at the Grant Line Road/White Rock Road Intersection (Intersection 26).</b> Unsignalized intersection operations at Grant Line Road/White Rock Road would degrade from an acceptable LOS C to an unacceptable LOS F during the a.m. peak traffic hour, and would continue to operate at LOS F during the p.m. peak traffic hour with the addition of project-related traffic, both under development Phase 1 and at full project buildout. The addition of project traffic during the p.m. peak traffic hour would increase control delay by more than 5.0 seconds.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to the Grant Line Road/White Rock Road Intersection (Intersection 26).</b> To ensure that the Grant Line Road/White Rock Road intersection operates at an acceptable LOS, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ A traffic signal must be installed at this intersection.</li> <li>▶ One through lane and one dedicated right-turn lane must be added on the southbound approach.</li> <li>▶ One left-turn lane and one shared left/through/right-turn lane must be added on the eastbound approach.</li> <li>▶ One left-turn lane and one through lane must be added on the northbound approach.</li> </ul> <p>Improvements to this intersection must be coordinated with the County and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-1t: Unacceptable LOS at the Kilgore Road/White Rock Road Intersection (Intersection 27).</b> Signalized intersection operations at Kilgore Road/White Rock Road would degrade from LOS D to LOS F during the a.m. peak traffic hour with project traffic both under development Phase 1 and at full project buildout. Although this intersection would operate at an unacceptable LOS F during the p.m. peak traffic hour both with and without project traffic, project traffic would also increase the V/C ratio by 0.05 or more.</p> <p><b>PP, HD, IM: Participate in Improvements to the Kilgore Road/White Rock Road Intersection (Intersection 27).</b> To ensure that the Kilgore Road/White Rock Road intersection operates at an acceptable LOS with implementation of development Phase 1, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ A free right-turn lane must be added on the northbound approach with an associated receiving lane (which would require widening of the White Rock Road crossing of the Folsom South Canal).</li> <li>▶ One through lane must be added on the eastbound approach.</li> <li>▶ Two left-turn lanes must be provided on the westbound approach.</li> </ul> <p>For buildout of the specific plan under the three development alternatives, the improvements described above are required. In addition, one left-turn lane, two through lanes, and one right-turn lane must be added to the southbound approach. Alternatively, International Drive could be extended into and through the Rio del Oro project site if desired, to provide parallel capacity to White Rock Road (see discussion of the International Drive realignment under “Impact Analysis” above and in Impact 3.14-5 below).</p> <p>Although these required improvements would offset impacts associated with the project under buildout of the specific plan, this intersection would not operate acceptably. For this intersection to operate acceptably under buildout of all three development alternatives, International Drive would have to be extended into and through the project site in conjunction with the identified improvements.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>The crossing of the Folsom South Canal must be coordinated with the U.S. Bureau of Reclamation and appropriate oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified extension of International Drive into and through the project site would require crossing the Folsom South Canal. Because the required canal crossing would involve other regulatory agencies; neither the City nor the project applicant(s) would have control over the timing or implementation of the identified improvement.</p>					
<p><b>3.14-1u: Unacceptable LOS on Mather Boulevard between Femoyer Street and Douglas Road (Roadway Segment 4).</b> This roadway segment would degrade from an acceptable LOS E to an unacceptable LOS F with project-related traffic both under development Phase 1 and at full project buildout.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements to Mather Boulevard between Femoyer Street and Douglas Road (Roadway Segment 4).</b> To ensure that Mather Boulevard operates at an acceptable LOS between Femoyer Street and Douglas Road, Femoyer Street must be widened to four lanes between Mather Boulevard and the proposed Zinfandel Drive extension, and the future Zinfandel Drive extension must be constructed as a four-lane facility from Femoyer Street to Douglas Road. Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because some of the identified improvements fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-1v: Unacceptable LOS on Douglas Road between Mather Boulevard and Sunrise Boulevard (Roadway Segment 5).</b> This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic both under development Phase 1 and at full project buildout. However, project traffic would increase the V/C ratio by more than 0.05.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements to Douglas Road between Mather Boulevard and Sunrise Boulevard (Roadway Segment 5).</b> To ensure that Douglas Road operates at an acceptable LOS between Mather Boulevard and Sunrise Boulevard, Douglas Road must be widened to four lanes. Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of the County and other regulatory agencies because of the Folsom South Canal crossing, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1w: Unacceptable LOS on White Rock Road between Sunrise Boulevard and Grant Line Road (Roadway Segment 9).</b> This roadway segment would degrade from LOS A to an unacceptable LOS E with traffic from development Phase 1, and would degrade to an unacceptable LOS F with traffic at full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to White Rock Road between Sunrise Boulevard and Grant Line Road (Roadway Segment 9).</b> To ensure that White Rock Road operates at an acceptable LOS between Sunrise Boulevard and Grant Line Road, White Rock Road must be widened to four lanes. Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the eastern portion of this roadway segment falls under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over the timing or implementation of this improvement.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1x: Unacceptable LOS on Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15).</b> This roadway segment would degrade from LOS E to LOS F with project-related traffic both under development Phase 1 and at full project buildout, and the V/C ratio would increase by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15).</b> Improvements must be made to ensure that Zinfandel Drive operates at an acceptable LOS between the U.S. 50 eastbound ramps and White Rock Road; specifically, this roadway segment should be widened to eight lanes. This improvement would allow the segment to operate at an acceptable LOS; however, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.</p> <p>An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), extension of International Drive into and through the project site, and connectivity between International Drive and Old Placerville Road.</p> <p>Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because widening this segment is inconsistent with the City’s Circulation Element/Plan, and because the alternative improvements fall partially under the jurisdiction of the County, meaning that neither the City nor the project applicant(s) can ensure their implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1y: Unacceptable LOS on Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17).</b> This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. However, the addition of project traffic would also cause the V/C ratio to increase by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17).</b> Improvements must be made to improve operations on Sunrise Boulevard between Gold Country Boulevard and Coloma Road; specifically, this roadway segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, although this improvement is consistent with the County Mobility Study, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Furthermore, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment. For these reasons, the impact conclusion reached in this DEIR/DEIS is significant and unavoidable.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1z: Unacceptable LOS on Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18).</b> This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. However, the addition of project traffic would also cause the V/C ratio to increase by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18).</b> Improvements must be made to improve operations on Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps; specifically, this roadway segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, although this improvement is consistent with the County Mobility Study, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Furthermore, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment. For these reasons, the impact conclusion reached in this DEIR/DEIS is significant and unavoidable.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1aa: Unacceptable LOS on Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom Boulevard (Roadway Segment 19).</b> This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. However, the addition of project traffic would also cause the V/C ratio to increase by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom Boulevard (Roadway Segment 19).</b> Improvements must be made to improve operations on Sunrise Boulevard between the U.S. 50 eastbound ramps and Folsom Boulevard; specifically, this roadway</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, although this improvement is consistent with the County Mobility Study, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.</p> <p>An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), which could improve operations on this segment and reduce the project’s impact.</p> <p>Improvements to this roadway segment must be coordinated with Caltrans, Sacramento RT, and other potentially affected oversight agencies.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement is inconsistent with the City’s Circulation Element/Plan, and because implementation of Rancho Cordova Parkway (and its connection to U.S. 50) falls under the jurisdiction of the County and Caltrans, meaning that neither the City nor the project applicant(s) can guarantee implementation of either the identified improvement or its alternative.</p>					
<p><b>3.14-1bb: Unacceptable LOS on Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20).</b> This roadway segment would degrade from an unacceptable LOS E to LOS F, and the V/C ratio would increase by more than 0.05, with project-related traffic both under development Phase 1 and at full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20).</b> Improvements must be made to improve operations on Sunrise Boulevard between Folsom Boulevard and White Rock Road; specifically, this roadway segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, this improvement is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.</p> <p>An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), which could improve operations on this segment and reduce the project’s impact.</p> <p>Improvements to this roadway segment must be coordinated with Caltrans and the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement is inconsistent with the City’s Circulation Element/Plan, and because implementation of Rancho Cordova Parkway falls under the jurisdiction of the County and Caltrans, and neither the City nor the project applicant(s) can guarantee implementation of either the identified improvement or its alternative.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1cc: Unacceptable LOS on Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21).</b> This roadway segment would degrade from an acceptable LOS B to an unacceptable LOS F with project traffic both under development Phase 1 and at full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21).</b> Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS between White Rock Road and Douglas Road; specifically, this roadway segment should be widened to eight lanes. With this improvement, this segment would operate at an acceptable LOS for the Baseline Plus Phase 1 and Baseline Plus Full Project Buildout scenarios under all three development alternatives. However, this improvement is inconsistent with the City’s Circulation Element/Plan.</p> <p>An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), which could improve operations on this segment and reduce the project’s impact.</p> <p>Improvements to this intersection must be coordinated with Caltrans and the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement is inconsistent with the City’s Circulation Element/Plan, and because implementation of Rancho Cordova Parkway falls under the jurisdiction of the County and Caltrans, and neither the City nor the project applicant(s) can guarantee implementation of either the identified improvement or its alternative.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1dd: Unacceptable LOS at Sunrise Boulevard between SR 16 and Grant Line Road (Roadway Segment 22).</b> This roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F with project-related traffic both under development Phase 1 and at full project buildout.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between SR 16 and Grant Line Road (Roadway Segment 22).</b> To ensure that Sunrise Boulevard operates at an acceptable LOS between SR 16 and Grant Line Road, this roadway segment must be widened to four lanes. This improvement is included within the County’s development fee program. If this improvement is implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.</p> <p>Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because this improvement falls under the jurisdiction of the County, and neither the City nor the project applicant(s) can guarantee its implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1ee: Unacceptable LOS at Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23).</b> This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic, both under Phase 1 and at full project buildout. The addition of project traffic would exacerbate these unacceptable operations. Project traffic would also increase the V/C ratio by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23).</b> To improve operations on Hazel Avenue between Winding Way and the U.S. 50 westbound ramps, this roadway segment must be widened to six lanes. This improvement is included within the County’s development fee program and is expected to receive Measure A funding.</p> <p>With the identified improvement, this segment would still operate at an unacceptable LOS for the Baseline Plus Phase 1 and Baseline Plus Full Project Buildout scenarios under all three development alternatives, but the improvement would offset the amount of traffic the project adds to the segment and would reduce the project impact to a less-than-significant level.</p> <p>Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because this improvement falls under the jurisdiction of the County, and neither the City nor the project applicant(s) can guarantee its implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-1ff: Unacceptable LOS at U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27), and between Sunrise Boulevard and Hazel Avenue (Freeway Segment 29).</b> These freeway segments would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. The addition of project traffic would exacerbate these unacceptable operations.</p> <p><b>PP, HD, IM: Participate in Improvements to U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27) and U.S. 50 between Sunrise Boulevard and Hazel Avenue (Freeway Segment 29).</b> To ensure that U.S. 50 operates at an acceptable LOS between Mather Field Road and Zinfandel Drive and between Sunrise Boulevard and Hazel Avenue, the following improvements to the U.S. 50 corridor are required:</p> <ul style="list-style-type: none"> <li>▶ Ramp metering must be added on the Mather Field Road and Zinfandel Drive eastbound on-ramps.</li> <li>▶ An auxiliary lane must be constructed from Mather Field Road and Sunrise Boulevard.</li> <li>▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.</li> </ul>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> <li>▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.</li> <li>▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, as an interim project, to Watt Avenue).</li> <li>▶ HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.</li> </ul> <p>Improvements to these freeway segments must be coordinated with Caltrans and the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because several of the identified improvements fall under the jurisdiction of Caltrans or the County, and neither the City nor the project applicant(s) can guarantee their implementation.</p>					
<p><b>3.14-1gg: Unacceptable LOS at Douglas Road between Sunrise Boulevard and Jaeger Road (Roadway Segment 31).</b> This roadway segment would operate at an acceptable LOS A without the project and unacceptable LOS E with project-related traffic at full project buildout under the High Density Alternative.</p> <p><b>HD: Participate in Improvements to Douglas Road between Sunrise Boulevard and Jaeger Road (Roadway Segment 31).</b></p> <p>To improve operations on Douglas Road between Sunrise Boulevard and Jaeger Road, this roadway segment must be widened to six lanes. This improvement is consistent with the City’s Circulation Element/ Plan.</p> <p>This improvement is included within the <i>SunRidge Specific Plan Public Facilities Financing Plan</i> and zoning conditions as well as the City’s CIP.</p> <p><b>PP, IM, NP:</b> The roadway segment would operate at an acceptable level.</p>	LTS	LTS(m)	LTS	SU	NI
<p><b>3.14-1hh: Unacceptable LOS at Sunrise Boulevard between Douglas Road and Kiefer Boulevard (Roadway Segment 33).</b> This roadway segment would degrade from an acceptable LOS B to an unacceptable LOS E with project-related traffic under development Phase 1. Project-related traffic at full project buildout would cause the intersection to degrade to an unacceptable LOS F.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Douglas Road and Kiefer Boulevard (Roadway Segment 33).</b> To ensure that Sunrise Boulevard operates at an acceptable LOS between Douglas Road and Kiefer Boulevard, this roadway segment must be widened to six lanes consistent with the City’s Circulation Element/Plan and CIP.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-1ii: Unacceptable LOS at Sunrise Boulevard between Kiefer Boulevard and SR 16 (Roadway Segment 34).</b> This roadway segment would degrade from an acceptable LOS B to an unacceptable LOS E with project-related traffic under full project buildout.</p> <p><b>PP, HD, IM:</b> Participate in Improvements to Sunrise Boulevard between Kiefer Boulevard and SR 16 (Roadway Segment 34). To ensure that Sunrise Boulevard operates at an acceptable LOS between Kiefer Boulevard and SR 16, this roadway segment must be widened to six lanes consistent with the City's Circulation Element/Plan and CIP.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-1jj: Unacceptable LOS at Various Merge and Diverge Segments of U.S. 50.</b> With the exception of the Mather Field Road loop on-ramp, merge, the following merge and diverge segments of U.S. 50 would operate at an unacceptable LOS F with and without project-related traffic under development Phase 1:</p> <ul style="list-style-type: none"> <li>▶ Eastbound U.S. 50                             <ul style="list-style-type: none"> <li>• Mather Field Road direct off-ramp, diverge</li> <li>• Sunrise Boulevard direct off-ramp, diverge</li> <li>• Sunrise Boulevard loop/direct on-ramp, merge</li> </ul> </li> <li>▶ Westbound U.S. 50                             <ul style="list-style-type: none"> <li>• Hazel Avenue direct off-ramp, diverge</li> <li>• Zinfandel Drive direct on-ramp, merge</li> <li>• Mather Field Road loop on-ramp, merge (would degrade from LOS D to LOS F)</li> <li>• Mather Field Road direct on-ramp, merge</li> </ul> </li> </ul> <p>The addition of project-related traffic at full buildout would cause the following level of operations at U.S. 50 merge and diverge segments:</p> <ul style="list-style-type: none"> <li>▶ Eastbound U.S. 50                             <ul style="list-style-type: none"> <li>• Mather Field Road direct off-ramp, diverge—LOS F with and without project traffic, both a.m. and p.m. peak traffic hours</li> <li>• Zinfandel Drive direct off-ramp, diverge—would degrade from LOS C to LOS F in the a.m. peak traffic hour under the Proposed Project and Impact Minimization Alternatives; would degrade from LOS C to LOS F in the a.m. and LOS B to LOS F in the p.m. peak traffic hour under the High Density Alternative</li> </ul> </li> </ul>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> <li>• Sunrise Boulevard direct off-ramp, diverge—LOS F with and without project traffic during the p.m. peak traffic hour</li> <li>• Sunrise Boulevard loop/direct on-ramp, merge—would degrade from LOS E to LOS F with project traffic during the p.m. peak traffic hour</li> <li>▶ Westbound U.S. 50                             <ul style="list-style-type: none"> <li>• Hazel Avenue direct off-ramp, diverge—LOS F with and without project traffic during the a.m. peak traffic hour</li> <li>• Zinfandel Drive direct on-ramp, merge—LOS F with and without project traffic during both a.m. and p.m. peak traffic hours</li> <li>• Mather Field Road direct off-ramp, diverge – would degrade from LOS E to LOS F in both the a.m. and p.m. peak traffic hours under the Proposed Project Alternative; would degrade from LOS E to LOS F in the a.m. peak hour under the High Density and Impact Minimization Alternatives.</li> <li>• Mather Field Road loop on-ramp, merge – would degrade from LOS D to LOS F in the p.m. peak traffic hour with project traffic under all three development alternatives</li> <li>• Mather Field Road direct on-ramp, merge – would operate at LOS F in the a.m. and p.m. peak traffic hours with and without project traffic</li> </ul> </li> </ul>					
<p><b>PP, HD, IM: Participate in Improvements to Various Merge and Diverge Segments of U.S. 50.</b> To ensure that the U.S. 50 merge and diverge areas operate at an acceptable LOS, the following improvements to the U.S. 50 corridor are required:</p> <ul style="list-style-type: none"> <li>▶ Ramp metering must be added on the Mather Field Road and Zinfandel Drive eastbound on-ramps.</li> <li>▶ An auxiliary lane must be constructed from Mather Field Road and Sunrise Boulevard.</li> <li>▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.</li> <li>▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.</li> <li>▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, as an interim project, to Watt Avenue).</li> </ul>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>► HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.</p> <p>Improvements to these merge and diverge segments of U.S. 50 must be coordinated with Caltrans and the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because several of the identified improvements fall under the jurisdiction of Caltrans or the County, and neither the City nor the project applicant(s) can guarantee that these improvements would be completed.</p>					
<p><b>3.14-2: Increased Demand for Single-Occupant Automobile Travel in the Project Area.</b> Project implementation would increase demand for single-occupant automobile travel on area roadways and intersections.</p>	<p>Direct &amp; SU(m), No Indirect</p>	<p>Direct &amp; SU(m), No Indirect</p>	<p>Direct &amp; SU(m), No Indirect</p>	<p>SU</p>	<p>No Direct, No Indirect</p>
<p><b>PP, HD, IM: Develop Commercial Support Services and Mixed-use Development Concurrent with Housing Development, and Develop and Provide Options for Alternative Transportation Modes.</b> The project applicant(s) for all project phases shall develop commercial and mixed-use development concurrent with housing development, to the extent feasible in light of market realities and other considerations, to internalize vehicle trips. Pedestrian and bicycle facilities shall be implemented to the satisfaction of the City Public Works Department. To further minimize impacts from the increased demand on area roadways and intersections, the project applicant(s) for all project phases shall develop and implement safe and secure bicycle parking at schools and commercial centers to promote alternative transportation uses and reduce the volume of single-occupancy vehicles using area roadways and intersections.</p> <p><b>Timing:</b> Before approval of improvement plans for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the project would continue to add single-occupant vehicles in the area despite the potential of the mitigation measure to substantially reduce the number of single-occupant vehicles.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.14-3: Increased Demand for Alternative Modes of Transportation.</b> Implementation of the project would create demand for alternative transportation mode facilities such as buses, LRT, and carpools in Rancho Cordova.</p>	<p>Direct &amp; SU(m), No Indirect</p>	<p>Direct &amp; SU(m), No Indirect</p>	<p>Direct &amp; SU(m), No Indirect</p>	<p>SU</p>	<p>No Direct, No Indirect</p>
<p><b>PP, HD, IM: 3.14-3a: Participate in Capital Improvements for Transit Service.</b> The project applicant(s) for all project phases shall participate in capital improvements for transit service. The project's fair-share participation and the associated timing of the improvements shall be identified in the project conditions of approval and/or the project's development agreement. Improvements shall be coordinated, as necessary, with Sacramento RT.</p> <p><b>Timing:</b> As a condition of project approval and/or as a condition of the development agreement for all project phases.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p><b>3.14-3b: Coordinate with the 50 Corridor Transportation Management Association and Comply with the City of Rancho Cordova Transportation System Management Ordinance.</b> The project applicant(s) for all project phases shall coordinate with the 50 Corridor Transportation Management Association and comply with the City of Rancho Cordova transportation system management ordinance.</p> <p><b>Timing:</b> Concurrent with construction for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because neither the City nor the project applicant(s) can guarantee implementation of increased transit service within Rancho Cordova.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.14-4: Inconsistency of the Rio del Oro Specific Plan with the City’s Adopted General Plan.</b> The proposed project is inconsistent with the City’s adopted General Plan.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	SU	No Direct, No Indirect
<p><b>PP, HD, IM: Modify Rio del Oro Specific Plan to be Consistent with the City’s Adopted General Plan.</b> The project applicant(s) for all project phases shall modify the Rio del Oro Specific Plan to be consistent with the City’s General Plan.</p> <p><b>Timing:</b> As a condition of project approval and/or as a condition of the development agreement for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p>					
<p><b>3.14-5: Potential Impacts Associated with Alternative Land Uses within the Overflight Zone of the Rio del Oro Specific Plan Area.</b> Land uses in the overflight zone were assumed to be industrial in nature. However, project implementation could result in alternative uses in this area, such as a sports field complex or amphitheater, which may create traffic impacts at greater intensities than the assumed industrial land uses.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	SU	No Direct or Indirect
<p><b>PP, HD, IM: Require Individual Transportation Impact Studies for Alternative Land Uses in the Overflight Zone and Implement All Identified Transportation Improvements.</b> As development occurs in the overflight zone, the project applicant(s) for any proposed alternative land use shall complete specific transportation impact studies to the satisfaction of the City’s Public Works Department. Impacts shall be identified using methodologies adopted by the City or consistent with those identified in this DEIR/DEIS. Improvements identified as a result of the individual transportation impact studies shall be implemented by the</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>project applicant(s) for all project phases.</p> <p><b>Timing:</b> As development applications come forth for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p>					
<b>Cumulative</b>					
<p>*Note that all cumulative impacts of the NF Alternative (No Federal Action) would be inconsistent with the City General Plan Circulation Element/Plan. This alternative would result in greater impacts on transportation infrastructure outside the Rio del Oro Specific Plan area. No feasible mitigation measures are available to reduce impacts resulting from implementation of the NF Alternative to a less than significant level. Therefore, impacts under the NF Alternative would remain significant and unavoidable.</p>					
<p><b>3.14-6: Potential Impacts Associated with the City’s Transportation Impact Fee Program.</b> The City of Rancho Cordova has a transportation impact fee program to implement roadway facilities (those identified in the City General Plan for Implementation before Year 2030) within the city limits. However, currently this program is only 67% funded.</p> <p><b>PP, HD, IM, NP: Pay Fair-Share Cost of Identified Improvements that Are Not Fully Funded by the City’s Fee Program.</b> The project applicant(s) for all project phases shall provided fair-share contributions to the City’s transportation impact fee program to aid in bridging the program’s funding shortfall. However, ultimate funding of the improvements cannot be guaranteed (as it would require funding from other developments in the area).</p> <p><b>Timing:</b> As a condition of project approval and/or as a condition of the development agreement for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p>	Direct & SU, No Indirect	Direct & SU, No Indirect	Direct & SU, No Indirect	SU	Direct & PS, No Indirect

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-7: Increases to Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service, under Cumulative (2030) Conditions.</b> Implementation of the project and other reasonably foreseeable development would cause an increase in a.m. peak traffic hour, p.m. peak traffic hour, and/or daily traffic volumes on area roadways, resulting in unacceptable LOS and warranting the need for improvements such as traffic signals and additional lanes under cumulative (2030) conditions.</p> <p><b>Mitigation Measure Common to All Impacts under Impact 3.14-7</b></p> <p>To avoid repetition, the information contained in the following mitigation measure applies to all other mitigation measures required under Impact 3.14-7. Note that no mitigation measures are required for the No Project Alternative because, as described above, no direct or indirect impacts would occur.</p> <p><b>PP, HD, IM:</b> The project applicant(s) for all project phases shall participate in the necessary improvements identified in all of the following mitigation measures. The project's fair-share participation and the associated timing of the improvements shall be identified in the projects conditions of approval and in the mitigation monitoring and reporting program for the project or in conjunction with and as an appendix to the Rio del Oro Specific Plan (see mitigation measures following each identified impact).</p> <p>The timing and enforcement (described below) would be the same for all identified mitigation measures associated with Impact 3.14-7.</p> <p><b>Timing:</b> As a condition of project approval and/or as a condition of the development agreement for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works Department.</p> <p>Please note that the improvements described in each of the following mitigation measures have not been designed, and therefore, project-specific impacts as a result of these improvements cannot be precisely identified or quantified.</p> <p>If need be, site-specific impacts of the identified improvements would be assessed pursuant to CEQA requirements when specific intersection and roadway improvement plans are developed, separate from the Rio del Oro DEIR/DEIS. Any such necessary environmental review would be completed before final approval of the improvements identified in the mitigation measures. No such additional review may be necessary, however, if the effects of such improvements are consistent with what can generally be expected of such improvements, as set forth immediately below.</p> <p>Based on review of existing available environmental documentation, field review at a reconnaissance level, and review of aerial photography, it is anticipated that, at worst, the construction of these intersection and roadway improvements could directly adversely affect wetland resources and associated grassland habitat area and could result in construction-related environmental effects, including but not limited to:</p> <ul style="list-style-type: none"> <li>▶ impacts related to construction traffic, noise, air quality, water quality, and drainage;</li> <li>▶ impacts on cultural resources; and</li> <li>▶ impacts on special-status plants and animals and their habitats.</li> </ul>	Direct & S, No Indirect	Direct & S, No Indirect	Direct & S, No Indirect	SU	No Direct, No Indirect

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>In addition to construction-related impacts, implementation of these improvements could result in long-term effects on water quality and drainage. The impacts that could arise from the planned improvements will be measured using the significance thresholds identified in each section of Chapter 3 of this DEIR/DEIS.</p> <p>Once a planned roadway is designed, the City will retain a qualified biologist to conduct a reconnaissance survey to determine type(s) of habitat to be removed, and whether wetlands or special-status species are present. The City will also conduct a cultural resources records search to determine whether any known cultural resources are present.</p> <p>The mitigation measures recommended in Chapter 3 of this DEIR/DEIS would be applied (where applicable) to mitigate any such effects, if significant, to less-than-significant levels. For example, measures will be implemented to ensure no net loss of wetlands. Best management practices and Sacramento Metropolitan Air Quality Management District measures will be implemented for water and air quality effects, and preconstruction surveys would be performed where sensitive habitat is present (and if special-status species or habitat is present, the biological resources protection measures would be implemented). The relocation of any utility pole or other utilities will be coordinated with the appropriate service provider to ensure that there would be no impact on the service provider. Additionally, if permits or other authorization are required, they will be secured and the conditions will be followed.</p> <p>For improvements to the following intersections and roadway improvements, the following impacts (in addition to the above) could result from implementation of required improvements:</p> <ul style="list-style-type: none"> <li>▶ Direct impacts on LRT service in the area—Sunrise Boulevard/Folsom Boulevard (Intersection 19)</li> <li>▶ Direct impacts from required grade separation structure—Sunrise Boulevard/Zinfandel Drive and Hazel Avenue/Folsom Boulevard intersections (Intersections 22 and 23, respectively)</li> <li>▶ Direct impacts on the Folsom South Canal—Eagles Nest Road/Kiefer Boulevard and Sunrise Boulevard/International Drive intersections (Intersections 28 and 29, respectively)</li> <li>▶ Direct impacts from required new river crossings of the American River—Sunrise Boulevard between Gold Country Boulevard and Coloma Road and Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps (Roadway Segments 17 and 18, respectively)</li> <li>▶ Direct impacts from potential removal of approximately 80 utility poles, 60 street lights, approximately 50 large trees, and commercial/industrial property, resulting from improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20)</li> </ul> <p>Direct impacts from potential removal of approximately 60 utility poles, 100 street lights, approximately 40 large trees (primarily oak and landscaped trees), and commercial/industrial property, resulting from improvements to Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21)</p> <p><b>NP:</b> No mitigation measures are required.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-7a: Unacceptable LOS at the SR 16/Eagles Nest Road Intersection (Intersection 2) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an acceptable level during both the a.m. and p.m. peak traffic hours with traffic from the Proposed Project, Impact Minimization, and No Project Alternatives under cumulative (2030) conditions. However, operations would degrade from an acceptable LOS D to an unacceptable LOS E during the a.m. peak traffic hour with traffic from the High Density Alternative.</p> <p><b>HD: Participate in Improvements to the SR 16/Eagles Nest Road Intersection (Intersection 2).</b> To ensure that the SR 16/Eagles Nest Road intersection operates at an acceptable LOS D or better, the northbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and one dedicated right-turn lane. Improvements to the SR 16/Eagles Nest Road intersection are contained within the <i>SunRidge Specific Plan Public Facilities Financing Plan</i> and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/SunRidge Specific Plan Project state that physical improvement of this intersection is feasible. Implementation of these improvements would reduce traffic impacts on this intersection. Improvements to this intersection must be coordinated with Caltrans and the County.</p> <p><b>PP, IM, NP:</b> No mitigation measures are required.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the improvements identified above fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	No Direct or Indirect	SU(m)	No Direct or Indirect	SU	No Direct or Indirect
<p><b>3.14-7b: Unacceptable LOS at the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project-related traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6).</b> To ensure that the Grant Line Road/Sunrise Boulevard intersection operates at an acceptable LOS D or better, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach must be reconfigured to consist of one left-turn lane and a shared through/right-turn lane.</li> <li>▶ The southbound approach must be reconfigured to consist of one left-turn lane, one through lane, and two right-turn lanes with overlap right-turn signal phase.</li> <li>▶ The eastbound approach must be reconfigured to consist of two left-turn lanes, two through lanes, and a shared through/right-turn lane.</li> <li>▶ The westbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and a shared through/right-turn lane.</li> </ul>	SU(m)	SU(m)	SU(m)	SU	No Direct or Indirect

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Interim improvements to the Grant Line Road/Sunrise Boulevard intersection are contained within the Elk Grove West Vineyard Plan, with ultimate improvements contained within the <i>Vineyard Springs Comprehensive Plan Public Financing Plan</i>. These intersection improvements must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the improvements identified above fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-7c: Unacceptable LOS at the Grant Line Road/Kiefer Boulevard Intersection (Intersection 7) under Cumulative (2030) Conditions.</b> This unsignalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase delay at this intersection by more than 5 seconds during the a.m. and p.m. peak traffic hours.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements to the Grant Line Road/Kiefer Boulevard Intersection (Intersection 7).</b>To ensure that the Grant Line Road/Kiefer Boulevard intersection operates at an acceptable LOS D or better, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ A traffic signal must be installed at this intersection. The southbound approach must be reconfigured to consist of one left-turn lane, three through lanes, and one dedicated right-turn lane.</li> <li>▶ The eastbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one dedicated right-turn lane.</li> <li>▶ The westbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one right-turn lane.</li> </ul> <p>Improvements to this intersection must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because portions of the identified improvements of this intersection fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-7d: Unacceptable LOS at the Grant Line Road/Douglas Road Intersection (Intersection 8) under Cumulative (2030) Conditions.</b> This unsignalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase delay on the worst-case approach by more than 5 seconds during the a.m. and p.m. peak traffic hours.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to the Grant Line Road/Douglas Road Intersection (Intersection 8).</b> To ensure that the Grant Line Road/Douglas Road intersection operates at an acceptable LOS D or better, a traffic signal must be installed at this intersection. Improvements to this intersection are contained within the <i>SunRidge Specific Plan Public Financing Plan</i>.</p>					
<p><b>3.14-7e: Unacceptable LOS at the Sunrise Boulevard/Douglas Road Intersection (Intersection 9) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with and without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/Douglas Road Intersection (Intersection 9).</b> To improve LOS at the Sunrise Boulevard/Douglas Road intersection, all approaches must be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane.</p> <p>However, even with these improvements, this intersection would continue to operate at an unacceptable LOS. For this intersection to operate at an acceptable LOS, additional roadway connectivity is required. To achieve this connectivity, the Kiefer Boulevard Extension between Rancho Cordova and Sacramento must be implemented. Additional intersection improvements could be implemented consistent with the City’s Circulation Element/Plan, including partial grade separation of the intersection and/or aggressive at-grade treatments such as triple left-turn lanes, enhanced-capacity right-turn treatments, or conversion into a continuous-flow intersection.</p> <p>Improvements to this intersection are contained within the <i>SunRidge Specific Plan Public Financing Plan</i>, but this Public Financing Plan would not be able to fund all of the improvements described above. These intersection improvements must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the required additional connectivity on Kiefer Boulevard between Rancho Cordova and Sacramento falls under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over the timing or implementation of this improvement. Furthermore, the feasibility of the aggressive at-grade or partial grade-separated alternatives has not been determined, as no specific designs have been developed and environmental constraints have not been identified.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7f: Unacceptable LOS at the Mather Field Road/U.S. 50 Eastbound Ramps Intersection (Intersection 12) under Cumulative (2030) Conditions.</b> Operations at this signalized intersection would degrade from LOS E to LOS F, and the V/C ratio at this intersection would increase by 0.05 or more during the a.m. peak traffic hour, with the addition of project traffic under cumulative (2030) conditions. During the p.m. peak traffic hour, project traffic would cause intersection operations to degrade from an acceptable LOS D to an unacceptable LOS E.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to the Mather Field Road/U.S. 50 Eastbound Ramps Intersection (Intersection 12).</b> To ensure that the Mather Field Road/U.S. 50 eastbound ramps intersection operates at an acceptable LOS D or better, the eastbound approach must be reconfigured to include an additional right-turn lane. Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP, and must be coordinated with Caltrans.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the improvement identified above falls under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over its timing or implementation.</p>					
<p><b>3.14-7g: Unacceptable LOS at Mather Field Road/International Drive (Intersection 13) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with and without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements at the Mather Field Road/International Drive Intersection (Intersection 13).</b> Southbound left-turn and westbound right-turn volumes at the Mather Field Road/International Drive intersection are substantial enough that additional lanes at this intersection would not reduce impacts at the intersection; therefore, the intersection would continue to operate at an unacceptable LOS E or LOS F. However, additional roadway connectivity in the area, through measures such as implementation of the Kiefer Boulevard Extension to Sacramento, extension of Routier Road to the south, completion of the International Drive–Old Placerville Road connection, and construction of the potential tunnel under Mather Field, has the potential to shift traffic volumes to reduce traffic impacts at the intersection. These additional roadway connectivity measures are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of these improvements would assist in reducing traffic impacts on this intersection by providing acceptable operations.</p> <p>Improvements to this intersection must be coordinated with the County and other regulatory agencies because of the proximity of some of these improvements to Mather Field.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the Kiefer Boulevard Extension and International Drive–Old Placerville Road connection fall under the jurisdiction of the County, and the Routier Road extension and tunnel construction under Mather Field would require coordination with other regulatory agencies because of their proximity to the airstrip. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of all the identified improvements.</p>					

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-7h: Unacceptable LOS at the Zinfandel Drive/International Drive Intersection (Intersection 14) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Zinfandel Drive/International Drive Intersection (Intersection 14)</b> Improvements must be made to improve LOS at the Zinfandel Drive/International Drive intersection. Specifically, this intersection should be reconfigured to provide three left-turn lanes, four through lanes, and one right-turn lane. Additionally, capacity enhancement is needed for the eastbound right-turn movement.</p> <p>These improvements would reduce the cumulative impact caused by the proposed project and alternatives under consideration by providing acceptable LOS. However, widening International Drive to four through lanes is inconsistent with the City’s Circulation Element/Plan because City policy requires roadway cross sections of six lanes or fewer.</p> <p>To be consistent with the City’s Circulation Element/Plan, aggressive at-grade improvements are required, such as partial grade separation, capacity-enhancing right-turn treatments on all approaches, or implementation of a continuous-flow intersection. Additionally, improved roadway connectivity, such as the extension of Kiefer Boulevard, International Drive–Old Placerville Road connection, and/or construction of the tunnel under Mather Field would shift traffic volumes and reduce traffic at the intersection.</p> <p>The additional roadway connections described above and aggressive at-grade intersection treatments are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of these improvements would assist in reducing traffic impacts on this intersection by providing acceptable operations.</p> <ul style="list-style-type: none"> <li>▶ Improvements to this intersection must be coordinated with the County and other regulatory agencies (such as FAA) because of the proximity of some of these improvements to Mather Field.</li> </ul> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the Kiefer Boulevard Extension and International Drive–Old Placerville Road connection are under the jurisdiction of the County, and the Routier Road extension and tunnel construction under Mather Field would require coordination with other regulatory agencies (such as FAA) because of their proximity to the airstrip. Furthermore, the aggressive at-grade treatments have not been designed, and they could have geometric and/or environmental constraints that may make the treatments infeasible. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of all the identified improvements.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-7i: Unacceptable LOS at the Zinfandel Drive/White Rock Road Intersection (Intersection 15) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Zinfandel Drive/White Rock Road Intersection (Intersection 15).</b> Improvements required to provide acceptable LOS at the Zinfandel Drive/White Rock Road intersection consist of three left-turn lanes, four through lanes, and one right-turn lane on all approaches; and capacity enhancement treatments on the westbound right-turn movement.</p> <p>Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of the identified improvements would assist in reducing traffic impacts on this intersection by providing acceptable LOS. However, these improvements include widening the facility to more than six lanes, which is inconsistent with the City’s General Element/Plan. Alternatively, partial grade separation could be implemented consistent with the City’s Circulation Element/Plan and CIP; however, aggressive at-grade treatments such as partial grade separation have not been designed, and they could have geometric and/or environmental constraints that may make the treatments infeasible.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because one improvement is inconsistent with the City’s General Element/Plan, and the other (partial grade separation) has not been designed, the improvements may be infeasible as a result of consistency, geometric, and/or environmental constraints, and neither the City nor the project applicant(s) would have control over the timing or implementation of all the identified improvements.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7j: Unacceptable LOS at the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an acceptable LOS D during the a.m. peak traffic hour and an unacceptable LOS F during the p.m. peak traffic hour without the project under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05 and degrade a.m. peak-hour operations to an unacceptable LOS F.</p> <p><b>PP, HD, IM: Participate in Improvements to the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16).</b> To ensure that the Zinfandel Drive/U.S. 50 eastbound ramps intersection operates at an acceptable LOS D or better, the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach must be reconfigured to consist of four through lanes and a shared through/right-turn lane.</li> <li>▶ The southbound approach must be reconfigured to consist of three through lanes and a free right-turn lane.</li> <li>▶ The eastbound approach must be reconfigured to consist of three left-turn lanes, two through lanes, and a free right-turn lane.</li> <li>▶ The westbound approach must be reconfigured to consist of three right-turn lanes.</li> </ul>	SU(m)	SU(m)	SU(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of these improvements would assist in reducing traffic impacts on this intersection by providing acceptable operation. Intersection improvements must be coordinated with Caltrans.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-7k: Unacceptable LOS at the Sunrise Boulevard/White Rock Road Intersection (Intersection 18) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F and LOS E during the a.m. and p.m. peak traffic hours, respectively, with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/White Rock Road Intersection (Intersection 18).</b> To ensure that the Sunrise Boulevard/White Rock Road intersection operates at an acceptable LOS, grade separation must be implemented at this intersection.</p> <p>Some funding for intersection improvements to this intersection is identified in the <i>Mather Field Specific Plan Public Financing Plan (Zinfandel Drive Extension)</i>, and grade separation of the intersection is in the City’s Circulation Element/Plan and included in the City’s CIP. The grade separation treatment has not been designed, however, and it could have geometric and/or environmental constraints that may make the treatment infeasible. No other feasible improvements are available at this intersection to ensure that it operates at an acceptable level.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the feasibility of grade separation at this location has not been determined, these identified improvements may not be feasible, and neither the City nor the project applicant(s) would have control over the timing or implementation of the identified improvement.</p>					
<p><b>3.14-7l: Unacceptable LOS at the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19) under Cumulative (2030) Conditions.</b> Operations at this signalized intersection would be an unacceptable LOS F during the a.m. peak traffic hour and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at the intersection by 0.05 or more.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19).</b> Improvements must be made to ensure that the Sunrise Boulevard/Folsom Boulevard intersection operates at an acceptable LOS D or better. Specifically, all of the following improvements should be made:</p>					

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> <li>▶ The northbound approach should be reconfigured to consist of three left-turn lanes, four through lanes, and one right-turn lane.</li> <li>▶ The southbound approach should be reconfigured to consist of three left-turn lanes, four through lanes, and one right-turn lane.</li> <li>▶ The eastbound approach should be reconfigured to consist of two left-turn lanes, two through lanes, and one right-turn lane.</li> <li>▶ The westbound approach should be reconfigured to consist of two left-turn lanes, one through lane, and one right-turn lane.</li> </ul> <p>These improvements must be coordinated with Sacramento RT. The identified improvements would provide acceptable operations at this intersection. However, they may be infeasible because of geometric constraints at this intersection caused by the grade-separated LRT tracks. No other feasible improvements are available, and there is no assurance that the required improvements would be implemented.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because of the potential for infeasibility of the identified improvements.</p>					
<p><b>3.14-7m: Unacceptable LOS at the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21) under Cumulative (2030) Conditions.</b> Operations at this signalized intersection would be an unacceptable LOS F during the p.m. peak traffic hours with or without project traffic. The project would increase the V/C ratio by 0.05 or more.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21).</b> To ensure that the Sunrise Boulevard/U.S. 50 westbound ramps intersection operates at an acceptable LOS D or better, the northbound and southbound approaches must be reconfigured to consist of three through lanes and one free (uncontrolled) right-turn lane; and the westbound approach must be reconfigured to consist of two left-turn lanes and a free right-turn lane with an adequate receiving lane on Sunrise Boulevard. Improvements to this intersection must be coordinated with Caltrans.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7n: Unacceptable LOS at the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22).</b> Improvements must be made to ensure that the Sunrise Boulevard/Zinfandel Drive intersection operates at an acceptable LOS; specifically, the northbound and southbound approaches should be reconfigured to consist of an additional through lane. These at-grade improvements are consistent with the County Mobility Study; however, they would be inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes or fewer.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>An alternative to this improvement that is consistent with the City’s Circulation Element/Plan and associated CIP is implementation of grade separation at this intersection. However, the grade-separation treatment has not been designed, and it could have geometric and/or environmental constraints that may make the treatment infeasible.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement is inconsistent with the City’s Circulation Element Plan; and due to the potential for infeasibility of the identified alternative improvements.</p>					
<p><b>3.14-7o: Unacceptable LOS at the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23).</b> For the Hazel Avenue/Folsom Boulevard intersection to operate at an acceptable LOS D or better, grade separation of the intersection is required. This improvement is consistent with the City’s Circulation Element/Plan; however, the grade-separation treatment has not been designed, and it could have geometric and/or environmental constraints that may make the treatment infeasible.</p> <p>Improvements to this intersection must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the alternative improvement may have as-yet-unknown potentially significant impacts, and because the intersection is under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over the timing or implementation of the improvement necessary to provide acceptable operations at the intersection.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7p: Unacceptable LOS at the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24).</b> To ensure that the Hazel Avenue/U.S. 50 eastbound ramps intersection operates at an acceptable LOS D, all of the following improvements are required at this interchange:</p> <ul style="list-style-type: none"> <li>▶ The structure across U.S. 50 must be widened to accommodate eight lanes (four in each direction) on the structure.</li> </ul>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>▶ The eastbound off-ramp approach must be reconfigured to consist of three left-turn lanes, a shared left/right-turn lane, and one right turn lane. Improvements to this interchange must be coordinated with Caltrans and the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>					
<p><b>3.14-7q: Unacceptable LOS at the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25).</b> Substantial improvements must be made to ensure that the Hazel Avenue/U.S. 50 westbound ramps intersection operates at an acceptable LOS D or better. Specifically, the following improvements should be made:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach should be reconfigured to consist of four through lanes and a free right-turn lane (this would require prohibiting northbound left turns to Tributary Point Drive).</li> <li>▶ The southbound approach should be reconfigured to consist of five through lanes and a free right-turn lane.</li> <li>▶ The eastbound approach should be reconfigured to consist of one free right-turn lane.</li> <li>▶ The westbound approach should be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.</li> </ul> <p>However, these improvements would prohibit northbound access to development west of the intersection and may be deemed infeasible in that access must be maintained.</p> <p>Improvements to this intersection must be coordinated with Caltrans and the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans and the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-7r: Unacceptable LOS at the Grant Line Road/White Rock Road Intersection (Intersection 26) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Grant Line Road/White Rock Road Intersection (Intersection 26).</b> To ensure that the Grant Line Road/White Rock Road intersection operates at an acceptable LOS D or better, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach must be reconfigured to consist of three left-turn lanes and three through lanes.</li> <li>▶ The southbound approach must be reconfigured to consist of two through lanes and two right-turn lanes.</li> <li>▶ The eastbound approach must be reconfigured to consist of two left-turn lanes and one free (uncontrolled) right-turn lane.</li> </ul> <p>Improvements to this intersection must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7s: Unacceptable LOS at the Sunrise Boulevard/Kiefer Boulevard Intersection (Intersection 27) under Cumulative (2030) Conditions.</b> Operations at this signalized intersection would degrade from an acceptable LOS D to an unacceptable LOS F during the a.m. peak traffic hour with project traffic from the Proposed Project Alternative under cumulative (2030) conditions. Operations would degrade to an unacceptable LOS E during the p.m. peak traffic hour under the Proposed Project and High Density Alternatives.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/Kiefer Boulevard Intersection (Intersection 27).</b> To ensure that the Sunrise Boulevard/Kiefer Boulevard intersection operates at an acceptable LOS D or better, the northbound and southbound approaches must be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-7t: Unacceptable LOS at the Eagles Nest Road/Kiefer Boulevard Intersection (Intersection 28) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS E during the a.m. peak traffic hour with project traffic from the Impact Minimization Alternative. Without project traffic, the intersection would operate acceptably under cumulative (2030) conditions.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to the Eagles Nest Road/Kiefer Boulevard Intersection (Intersection 28).</b> To ensure that the Eagles Nest Road/Kiefer Boulevard intersection operates at an acceptable LOS D or better, all approaches must be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.</p>					
<p><b>3.14-7u: Unacceptable LOS at the Sunrise Boulevard/International Drive Intersection (Intersection 29) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Sunrise Boulevard/International Drive Intersection (Intersection 29).</b> To improve LOS at the Sunrise Boulevard/International Drive intersection, the intersection must be reconfigured to consist of three left-turn lanes, three through lanes, and two right-turn lanes. However, even with these improvements, this intersection would operate at an unacceptable LOS. To further improve operations and to fully reduce the impact, aggressive at-grade improvements (such as implementation of a continuous-flow intersection) or partial grade separation is required, consistent with the City’s Circulation Element/Plan and associated CIP. However, the aggressive at-grade treatments have not been designed, and they could have geometric and/or environmental constraints that may make the treatments infeasible.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the improvements may have as-yet-unknown potentially significant impacts.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7v: Unacceptable LOS at the Rancho Cordova Parkway/White Rock Road Intersection (Intersection 30) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. However, project traffic would increase the V/C ratio at this intersection by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to the Rancho Cordova Parkway/White Rock Road Intersection (Intersection 30).</b> To improve operations at the Rancho Cordova Parkway/White Rock Road intersection, all the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound and southbound approaches must be reconfigured to consist of three left-turn lanes, three through lanes, and one right-turn lane.</li> <li>▶ The southbound approach must be reconfigured to include a free right-turn lane.</li> <li>▶ The eastbound and westbound approaches must be reconfigured to consist of three left-turn lanes, four through lanes, and a right-turn lane.</li> </ul> <p>However, these improvements are inconsistent with the City’s General Element/Plan. Alternatively, aggressive at-grade improvements (such as implementation of a continuous-flow intersection) or partial grade separation, consistent with the City’s Circulation Element/Plan and associated CIP, could be implemented.</p>	SU(m)	SU(m)	SU(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the improvements may have as-yet-unknown potentially significant impacts.					
<p><b>3.14-7w: Unacceptable LOS at the Rancho Cordova Parkway/U.S. 50 Eastbound Ramps Intersection (Intersection 31) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an acceptable LOS D during the a.m. peak traffic hours and LOS F during the p.m. peak traffic hours without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05, and would degrade a.m. operations to an unacceptable LOS F.</p> <p><b>PP, HD, IM: Participate in Improvements to the Rancho Cordova Parkway/U.S. 50 Eastbound Ramps Intersection (Intersection 31).</b> To ensure that the Rancho Cordova Parkway/U.S. 50 eastbound ramps intersection operates at an acceptable LOS, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach must be reconfigured to consist of two “free” right-turn lanes and two through lanes.</li> <li>▶ The southbound approach must be reconfigured to consist of one left-turn lane and two through lanes.</li> <li>▶ The eastbound approach must be reconfigured to consist of one shared through/left-turn lane and two “free” right-turn lanes.</li> </ul> <p>Improvements to this intersection must be coordinated with Caltrans.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over their timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7x: Unacceptable LOS at the Douglas Road/Jaeger Road Intersection (Intersection 33) under Cumulative (2030) Conditions.</b> Operations at this signalized intersection would degrade from an acceptable LOS to an unacceptable LOS E during the p.m. peak traffic hour with project traffic from the Proposed Project and High Density Alternatives under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to the Douglas Road/Jaeger Road Intersection (Intersection 33).</b> Improvements must be made to ensure that the Douglas Road/Jaeger Road intersection operates at an acceptable LOS. Specifically, all of the following improvements should be made:</p> <ul style="list-style-type: none"> <li>▶ The northbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and a right-turn lane.</li> <li>▶ The southbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and a right-turn lane.</li> <li>▶ The eastbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane with right-turn capacity</li> </ul>	LTS(m)	LTS(m)	LTS(m)	SU	NI

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>enhancement (such as a pork-chop island or right-turn green arrow concurrent with the southbound left-turn phase).</p> <p>▶ The westbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane.</p>					
<p><b>3.14-7y: Unacceptable LOS at the Douglas Road/Americanos Boulevard Intersection (Intersection 34) under Cumulative (2030) Conditions.</b> Operations at this signalized intersection would degrade from an acceptable LOS to an unacceptable LOS E during the p.m. peak traffic hour with project traffic under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to the Douglas Road/Americanos Boulevard Intersection (Intersection 34).</b> To ensure that the Douglas Road/Americanos Boulevard intersection operates at an acceptable LOS D or better, a second eastbound right-turn lane must be added.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-7z: Unacceptable LOS at the Chrysanthy Boulevard/Sunrise Boulevard Intersection (Intersection 35) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an acceptable LOS during the a.m. and p.m. peak traffic hours without project traffic under cumulative (2030) conditions. Project traffic would degrade operations during the a.m. peak traffic hour to an unacceptable level.</p> <p><b>PP, HD, IM: Participate in Improvements to the Chrysanthy Boulevard/Sunrise Boulevard Intersection (Intersection 35).</b> To ensure that the Chrysanthy Boulevard/Sunrise Boulevard intersection operates at an acceptable LOS, a second westbound right-turn lane must be added.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-7aa: Unacceptable LOS at the White Rock Road/Americanos Boulevard Intersection (Intersection 39) under Cumulative (2030) Conditions.</b> Operations at this signalized intersection would degrade from an unacceptable LOS to an unacceptable LOS F during the a.m. and p.m. peak traffic hours with project traffic under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to the White Rock Road/Americanos Boulevard Intersection (Intersection 39).</b> To ensure that the White Rock Road/Americanos Boulevard intersection operates at an acceptable LOS during the a.m. peak traffic hour, the northbound and southbound approaches must be reconfigured to consist of three left-turn lanes, two through lanes, and a shared through/right-turn lane; and the eastbound and westbound approaches must be reconfigured to consist of one left-turn lane, three through lanes, and two right-turn lanes.</p> <p>Improvements to this intersection must be coordinated with the County and Aerojet General Corporation (Aerojet).</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the future north-south connectivity improvement fall under the jurisdiction of County and may be precluded by operations at Aerojet, and neither the City nor the project applicant(s) would have control over the timing or implementation.</p>					
<p><b>3.14-7bb: Unacceptable LOS at the Hazel Avenue/Gold Country Boulevard Intersection (Intersection 40) under Cumulative (2030) Conditions.</b> This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with and without project traffic under cumulative (2030) conditions. Project traffic would cause the V/C ratio at this intersection to increase by 0.05 or more during the a.m. peak hour only.</p> <p><b>PP, HD, IM: Participate in Improvements to the Hazel Avenue/Gold Country Boulevard Intersection (Intersection 40).</b> To ensure that the Hazel Avenue/Gold Country Boulevard intersection operates at an acceptable LOS, the northbound and southbound approaches must be reconfigured to consist of additional through lanes in the northbound and southbound directions. However, there are significant geographic constraints associated with additional widening of Hazel Avenue, primarily because of the existing bridge crossing of the American River just north of this intersection. Additionally, any roadway widening would require modification to the bluffs between the American River and Fair Oaks Boulevard. Improvements to this intersection must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over the timing or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7cc: Unacceptable LOS on International Drive between South White Rock Road and Zinfandel Drive (Roadway Segment 6) under Cumulative (2030) Conditions.</b> Operations on this roadway segment would degrade from an acceptable LOS C to an unacceptable LOS E with project traffic under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to International Drive between South White Rock Road and Zinfandel Drive (Roadway Segment 6).</b> Improvements must be made to ensure that International Drive operates at an acceptable LOS between South White Rock Road and Zinfandel Drive; specifically, this roadway segment should be widened to eight lanes. However, the identified improvement is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.</p> <p>An alternative to this improvement is additional connectivity, such as completion of the Kiefer Boulevard extension into Sacramento. This alternative improvement could relieve some traffic from this roadway segment, but would not reduce the impact to a less-than-significant level.</p> <p>Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements would fall under the jurisdiction of the</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
County, and neither the City nor the project applicant(s) would have control over the timing or implementation.					
<p><b>3.14-7dd: Unacceptable LOS on Mather Field Road between Folsom Boulevard and U.S. 50 Westbound Ramps (Roadway Segment 12) under Cumulative (2030) Conditions.</b> Operations at this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS E.</p> <p><b>PP, HD, IM: Participate in Improvements to Mather Field Road between Folsom Boulevard and U.S. 50 Westbound Ramps (Roadway Segment 12).</b> Improvements must be made to ensure that Mather Field Road operates at an acceptable LOS between Folsom Boulevard and U.S. 50 westbound ramps; specifically, this roadway segment should have high-access controls.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-7ee: Unacceptable LOS on Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15) under Cumulative (2030) Conditions.</b> Operation of this roadway segment would operate at an unacceptable LOS F with or without the project, and the V/C ratio would increase by more than 0.05 with project traffic under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15).</b> Improvements must be made to ensure that Zinfandel Drive operates at an acceptable LOS between the U.S. 50 eastbound ramps and White Rock Road; specifically, this roadway segment should be widened to eight lanes. However, this identified improvement is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.</p> <p>An alternative to this improvement is additional connectivity, such as the completion of Kiefer Boulevard into Sacramento and the extension of Routier Road. This alternative improvement could relieve some traffic from this roadway segment, but would not reduce the impact to a less-than-significant level.</p> <p>Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvements fall under the jurisdiction of the County, neither the City nor the project applicant(s) would have control over the timing or implementation of the improvements.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-7ff: Unacceptable LOS on Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17) under Cumulative (2030) Conditions.</b> This roadway segment would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17).</b> Improvements must be made to improve operation on Sunrise Boulevard between Gold Country Boulevard and Coloma Road; specifically, this roadway segment should be widened to eight lanes. The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on the roadway segment. However, because of other development in the region that would substantially increase traffic levels, the roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts. The identified improvement is consistent with the County Mobility Study; however, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Moreover, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment. Additional river crossings would result in significant environmental effects (i.e., loss of riparian habitat and loss of structures).</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented, and because the potential for additional river crossings is limited and would require coordination and approval by other regulatory agencies, neither the City nor the project applicant(s) would have control over the time or implementation.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7gg: Unacceptable LOS on Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18) under Cumulative (2030) Conditions.</b> This roadway segment would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio by more than 0.05.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18).</b> Improvements must be made to improve operation on Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps; specifically, this roadway segment should be widened to eight lanes. The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on this roadway segment. However, because of other development in the region that would substantially increase traffic levels, this roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts. The identified improvement is consistent with the County Mobility Study; however, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Moreover, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement (widening of Sunrise Boulevard) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented, and because the potential for additional river crossings is limited and</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
would require coordination and approval by other regulatory agencies.					
<p><b>3.14-7hh: Unacceptable LOS on Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom Boulevard (Roadway Segment 19) under Cumulative (2030) Conditions.</b> Operation of this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F with project traffic under cumulative conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom Boulevard (Roadway Segment 19).</b> Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS between the U.S. 50 eastbound ramps and Folsom Boulevard; specifically, this roadway segment should be widened to eight lanes. With implementation of this identified improvement, this segment would operate at an acceptable LOS, and the improvement is consistent with the County Mobility Study; however, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement (widening of Sunrise Boulevard) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7ii: Unacceptable LOS on Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20) under Cumulative (2030) Conditions.</b> Operation of this roadway segment would degrade from an acceptable LOS B to an unacceptable LOS E with project traffic under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20).</b> Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS between Folsom Boulevard and White Rock Road; specifically, this roadway segment should be widened to eight lanes. With implementation of this identified improvement, this segment would operate at an acceptable LOS, but the improvement is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.</p> <p>Because the identified improvement (widening of Sunrise Boulevard) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented, the impact conclusion reached in this DEIR/DEIS is significant and unavoidable.</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7jj: Unacceptable LOS on Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23) under Cumulative (2030) Conditions.</b> This roadway segment would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio by more than 0.05.</p>	SU(m)	SU(m)	SU(m)	SU	NI

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23).</b> To improve operation on Hazel Avenue between Winding Way and the U.S. 50 westbound ramps, this roadway segment must be widened to eight lanes. Improvements to this roadway segment must be coordinated with the County.</p> <p>The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on this roadway segment. However, because of other development in the region that would substantially increase traffic levels, this roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement would fall under the jurisdiction of the County, and neither the City nor the project applicant(s) would have control over the time or implementation</p>					
<p><b>3.14-7kk: Unacceptable LOS on U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27); between Sunrise Boulevard and Rancho Cordova Parkway (Freeway Segment 29); between Rancho Cordova Parkway and Hazel Avenue (Freeway Segment 30); and between Hazel Avenue and Folsom Boulevard (Freeway Segment 31) under Cumulative (2030) Conditions.</b> These segments would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would exacerbate these unacceptable operations.</p>					
<p><b>PP, HD, IM: Participate in Improvements to U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27); between Sunrise Boulevard and Rancho Cordova Parkway (Freeway Segment 29); between Rancho Cordova Parkway and Hazel Avenue (Freeway Segment 30); and between Hazel Avenue and Folsom Boulevard (Freeway Segment 31).</b> To ensure that these freeway segments operate at an acceptable LOS, all of the following improvements are required:</p> <ul style="list-style-type: none"> <li>▶ Ramp metering must be implemented on the Mather Field Road and Zinfandel Drive eastbound on-ramps.</li> <li>▶ Auxiliary lanes must be constructed from Mather Field Road, Sunrise Boulevard, and Rancho Cordova Parkway.</li> <li>▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.</li> <li>▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.</li> <li>▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, as an interim project, to Watt Avenue).</li> <li>▶ HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.</li> </ul>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Improvements to these freeway segments must be coordinated with Caltrans.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement falls under the jurisdiction of Caltrans, and neither the City nor the project applicant(s) would have control over the time or implementation</p>					
<p><b>3.14-7II: Unacceptable LOS on Sunrise Boulevard between Douglas Road and Chrysanthy Boulevard (Roadway Segment 43) under Cumulative (2030) Conditions.</b></p> <p>Operations on this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F, and the V/C ratio would increase by 0.05 or more, with project traffic under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to Sunrise Boulevard between Douglas Road and Chrysanthy Boulevard (Roadway Segment 43).</b> Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS D or better between Douglas Road and Chrysanthy Boulevard; specifically, this roadway segment should be widened to eight lanes. With implementation of this improvement, this segment would operate at an acceptable LOS; however, the improvement is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes or fewer.</p> <p>An alternative to this improvement is additional connectivity, such as the extensions of Chrysanthy Boulevard to Kiefer Boulevard, Jaeger Road to Grant Line Road, and Kiefer Boulevard to Sacramento. This alternative improvement has the potential to relieve traffic from this roadway segment and reduce the impact to a less-than-significant level.</p> <p>Improvements to this roadway segment must be coordinated with the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement (widening of Sunrise Boulevard) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented. Furthermore, the necessary alternative addition of roadway connectivity falls under the jurisdiction of the County; neither the City nor the project applicant(s) would have control over the timing or implementation</p>	SU(m)	SU(m)	SU(m)	SU	NI
<p><b>3.14-7mm: Unacceptable LOS on Rancho Cordova Parkway between Easton Valley Parkway and White Rock Road (Roadway Segment 47) under Cumulative (2030) Conditions.</b> Operations on this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F with project traffic under cumulative (2030) conditions.</p> <p><b>PP, HD, IM: Participate in Improvements to Rancho Cordova Parkway between Easton Valley Parkway and White Rock Road (Roadway Segment 47).</b> To improve operation on Rancho Cordova Parkway between Easton Valley Parkway and White Rock Road, this roadway segment must be widened to eight lanes. The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on this roadway segment. However, because of other development in the region that would substantially increase traffic levels, this roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts. Furthermore, this improvement is inconsistent with the City’s Circulation Element/Plan because</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>City policy requires a maximum roadway cross section of six lanes or fewer.</p> <p>An alternative to this improvement is additional connectivity, such as the extension of Chrysanthy Boulevard to Kiefer Boulevard, the extension of Jaeger Road to Grant Line Road, the extension of Kiefer Boulevard to Sacramento, and additional connectivity through the Aerojet site. This alternative improvement has the potential to relieve traffic from this roadway segment, but would not reduce the impact to a less-than-significant level.</p> <p>Improvements to this roadway segment must be coordinated with the County and Aerojet.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because the identified improvement (widening Rancho Cordova Parkway) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented. Furthermore, the alternative roadway connectivity would not reduce the project impact to a less-than-significant level. Additionally, the alternative addition of roadway connectivity falls under the jurisdiction of the County and Aerojet; neither the City nor the project applicant(s) would have control over the timing or implementation.</p>					
<p><b>3.14-7nn: Unacceptable LOS on Rancho Cordova Parkway between White Rock Road and Douglas Road (Roadway Segment 48) under Cumulative (2030) Conditions.</b> Operations on this roadway segment would degrade from an acceptable LOS A to an unacceptable LOS E with project traffic from the High Density and Impact Minimization Alternatives under cumulative (2030) conditions.</p> <p><b>HD, IM: Participate in Improvements to Rancho Cordova Parkway between White Rock Road and Douglas Road (Roadway Segment 48).</b> To ensure that Rancho Cordova Parkway operates at an acceptable LOS D or better between White Rock Road and Douglas Road, high-access control must be implemented on this roadway segment.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI
<p><b>3.14-7oo: Unacceptable LOS on Americanos Boulevard between White Rock Road and Douglas Road (Roadway Segment 50) under Cumulative (2030) Conditions.</b> Operations on this roadway segment would degrade from an acceptable LOS to an unacceptable LOS E with project traffic from the High Density Alternative under cumulative (2030) conditions.</p> <p><b>HD: Participate in Improvements to Americanos Boulevard between White Rock Road and Douglas Road (Roadway Segment 50).</b> To ensure that Americanos Boulevard operates at an acceptable LOS D or better between White Rock Road and Douglas Road, this roadway segment must have high-access control.</p>	LTS(m)	LTS(m)	LTS(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.14-7pp: Unacceptable LOS at Various Merge, Diverge, and Weave Segments of U.S. 50 under Cumulative (2030) Conditions.</b> The following merge, diverge, and weave segments of U.S. 50 would operate at an unacceptable LOS F with and without project-related traffic from all three development alternatives under cumulative (2030) conditions:</p> <ul style="list-style-type: none"> <li>▶ Eastbound U.S. 50                             <ul style="list-style-type: none"> <li>• Mather Field Road direct off-ramp, diverge</li> <li>• Sunrise Boulevard direct off-ramp, diverge (p.m. peak traffic hour only)</li> <li>• Sunrise Boulevard loop/direct on-ramp, merge</li> <li>• Rancho Cordova Parkway direct on-ramp, merge</li> <li>• Rancho Cordova Parkway direct off-ramp, diverge</li> <li>• Hazel Avenue direct off-ramp, diverge</li> <li>• Hazel Avenue loop/direct on-ramp, weave (a.m. peak traffic hour only)</li> <li>• Aerojet direct off-ramp, weave (a.m. peak traffic hour only)</li> </ul> </li> <li>▶ Westbound U.S. 50                             <ul style="list-style-type: none"> <li>• Hazel Avenue direct off-ramp, diverge</li> <li>• Hazel Avenue loop on-ramp, merge</li> <li>• Rancho Cordova Parkway direct off-ramp, diverge</li> <li>• Rancho Cordova Parkway loop on-ramp, merge</li> <li>• Sunrise Boulevard direct off-ramp, diverge (p.m. peak traffic hour only)</li> <li>• Zinfandel Drive direct on-ramp, merge</li> <li>• Mather Field Road direct off-ramp, diverge (a.m. peak traffic hour only)</li> <li>• Mather Field Road loop on-ramp, merge (a.m. peak traffic hour only)</li> <li>• Mather Field Road direct on-ramp, merge</li> </ul> </li> </ul> <p>The addition of project-related traffic under cumulative conditions would cause the following unacceptable LOS changes at U.S. 50 merge and diverge segments:</p> <ul style="list-style-type: none"> <li>▶ Eastbound U.S. 50</li> </ul> <p>Zinfandel Drive direct off-ramp, diverge—would degrade from LOS C to LOS F during the a.m. peak traffic hour under the Proposed Project and High Density Alternatives</p>	SU(m)	SU(m)	SU(m)	SU	NI

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Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>PP, HD, IM: Participate in Improvements to U.S. 50 Merge, Diverge, and Weave Segments.</b> To ensure that the U.S. 50 merge, diverge, or weave areas operate at an acceptable LOS, the following improvements to the U.S. 50 corridor are required:</p> <ul style="list-style-type: none"> <li>▶ Ramp metering must be added on the Mather Field Road and Zinfandel Drive eastbound on-ramps.</li> <li>▶ An auxiliary lane must be constructed from Mather Field Road and Sunrise Boulevard.</li> <li>▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.</li> <li>▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.</li> <li>▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, in an interim project, to Watt Avenue).</li> <li>▶ HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.</li> </ul> <p>Improvements to these merge, diverge, and weave areas must be coordinated with Caltrans and the County.</p> <p>The impact conclusion reached in this DEIR/DEIS is significant and unavoidable because several of the identified improvements fall under the jurisdiction of Caltrans and the County; and neither City nor the project applicant(s) would have control over the timing or implementation.</p>					
<b>3.15 AIR QUALITY</b>					
<b>Program Level and Project Level (Phase 1)</b>					
<p><b>3.15-1: Generation of Temporary, Short-Term Construction Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>.</b> Construction activities associated with the project would generate temporary, short-term emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Because of the large size of the project, construction-generated emissions of NO<sub>x</sub>, an ozone precursor, would exceed SMAQMD-recommended thresholds and would substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF: Implement Measures to Control Construction-Generated Air Pollutant Emissions.</b> To reduce short-term construction emissions, the project applicant(s) for all project phases shall implement the measures described below. In addition to the measures identified below, construction operations shall comply with all applicable SMAQMD rules and regulations.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> <li>▶ Phase 1 of all action alternatives for Rio del Oro would result in construction-generated emissions that exceed the SMAQMD threshold of significance, even after implementation of the SMAQMD “standard construction mitigation.” Therefore, the project applicant(s) shall pay SMAQMD an off-site mitigation fee for implementation of any of these alternatives for the purpose of reducing impacts to a less-than-significant level. The specific fee amounts shall be calculated when the construction emissions can be more accurately determined. This calculation would occur when an alternative has been selected, the project has been approved, and the Phase 1 improvement plans have been prepared. Calculation of fees associated with future, subsequent project phases shall be conducted before the approval of grading plans. It is estimated, based on information available at this time, that the off-site construction mitigation fees would range from \$4,404,845 to \$5,461,587 for development Phase 1, depending on which alternative is selected.</li> <li>▶ The project applicant(s) for all project phases shall pay into SMAQMD’s off-site construction mitigation fund to further mitigate construction-generated emissions of NO<sub>x</sub> that exceed SMAQMD’s daily emission threshold of 85 lb/day. The calculation of daily NO<sub>x</sub> emissions is based on the current cost of \$14,300 to reduce 1 ton of NO<sub>x</sub>. The determination of the final mitigation fee shall be conducted in coordination with SMAQMD before any demolition or ground disturbance occurs for any project phase.</li> <li>▶ Calculation of and payment of the fee for development Phase 1 and all subsequent project phases shall also be included in the Mitigation Monitoring and Reporting Program (MMRP) for the project.</li> <li>▶ The project applicant(s) for all project phases shall reduce NO<sub>x</sub> and visible emissions from heavy-duty diesel equipment by implementing the following measures:               <ul style="list-style-type: none"> <li>• A plan shall be developed for approval by the City, in consultation with SMAQMD, demonstrating that the heavy-duty (&gt;50 hp), off-road vehicles to be used in the construction project (including owned, leased, and subcontractor vehicles) will achieve a projectwide fleet-average 20% NO<sub>x</sub> reduction and 45% particulate reduction compared to the most recent ARB fleet average at the time of construction. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, particulate-matter traps, engine retrofit technology, after-treatment products, and/or such other options as become available.</li> <li>• A comprehensive inventory of all off-road construction equipment equal to or greater than 50 hp that shall be used for an aggregate of 40 or more hours during any portion of project construction shall be submitted to the City and SMAQMD. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction operations occur. At least 48 hours before heavy-duty off-road equipment is used, the project applicant(s) shall provide SMAQMD with the anticipated construction timeline, including the start date, and the name and phone number of the project manager and on-site foreman.</li> <li>• Emissions from off-road, diesel-powered equipment used on the project site shall not exceed 40% opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40% opacity (or Ringlemann 2.0) shall be repaired immediately, and SMAQMD shall be notified of noncompliant equipment within 48 hours of identification. A visual survey of all in-operation equipment shall be made at least weekly. A monthly summary of visual survey</li> </ul> </li> </ul>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>				
Impact Mitigation	Alternatives			
	PP	HD	IM	NF NP
<p>results shall be submitted to SMAQMD throughout the duration of the construction project, except that the monthly summary shall not be required for any 30-day period in which no construction operations occur. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. SMAQMD and/or other officials may conduct periodic site inspections to determine compliance.</p> <ul style="list-style-type: none"> <li>• Emulsified diesel or diesel catalysts shall be used on applicable heavy-duty construction equipment.</li> <li>• All of the above measures shall be included in all construction plans and specifications.</li> <li>• Payment into SMAQMD’s construction mitigation fund to offset construction-generated emissions of NO<sub>x</sub> that exceed SMAQMD’s daily emission threshold of 85 lb/day shall be made. The calculation of daily NO<sub>x</sub> emissions, for determination of offset fee mitigation, shall be conducted in coordination with SMAQMD and shall be based on the construction plan and equipment inventory to be prepared by the project representative.</li> </ul> <p>▶ As recommended by SMAQMD, the project applicant(s) for all project phases shall reduce fugitive-dust emissions by implementing the following measures:</p> <ul style="list-style-type: none"> <li>• Dust emissions on all disturbed areas, including storage piles that are not being actively used for construction purposes, shall be effectively stabilized using water, a chemical stabilizer or suppressant, or vegetative ground cover (keeping soil moist at all times).</li> <li>• Dust emissions on all on- and off-site unpaved access roads shall be effectively stabilized using water or a chemical stabilizer or suppressant.</li> <li>• When materials are transported off-site, such materials shall be covered and effectively wetted to limit visible dust emissions, and at least 2 feet of freeboard space shall be maintained from the top of the container.</li> <li>• The accumulation of project-generated mud or dirt from adjacent public streets shall be limited or expeditiously removed at least once every 24 hours when operations are occurring. After materials are added to or removed from the surfaces of outdoor storage piles that have the potential for fugitive-dust emissions, such storage piles shall be effectively stabilized using sufficient water or a chemical stabilizer or suppressant.</li> <li>• On-site vehicle speeds on unpaved roads shall be limited to 15 mph.</li> <li>• Wheel washers shall be installed for all trucks and equipment exiting unpaved areas, or wheels shall be washed to remove accumulated dirt before such vehicles leave the site.</li> </ul>				

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> <li>• Sandbags or other erosion control measures shall be installed to prevent runoff of silt to public roadways from adjacent project areas with a slope greater than 1%.</li> <li>• Excavation and grading activities, except soil stabilization activities, shall be suspended when winds exceed 20 mph. The extent of areas simultaneously subject to excavation and grading shall be limited to the minimum area feasible.</li> </ul> <p><b>Timing:</b> Before the approval of all grading plans and throughout project construction for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works and Planning Departments and Sacramento Metropolitan Air Quality Management District.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.15-2: Generation of Long-Term Operational (Regional) Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>.</b> Operational area- and mobile-source emissions from implementation of the project would exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, and would result in or substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS. In addition, because of the large increase in emissions associated with project buildout and the fact that the project is not within an already approved plan (which means that increased emissions would not already be accounted for in applicable air quality plans), project implementation could conflict with air quality planning efforts.</p> <p><b>PP, HD, IM, NF: Implement Measures to Control Long-Term Operational (Regional) Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>.</b> The project applicant(s) for all project phases shall submit a copy of the Operational Air Quality Plan developed in consultation with and approved by SMAQMD to the City. The Operational Air Quality Plan shall include measures to reduce operational air quality impacts associated with the project by a minimum of 15%, and these measures shall be included in the Rio del Oro Specific Plan. The project applicant(s) shall implement all measures included in the Operational Air Quality Plan. (The Operational Air Quality Plan is included in Appendix L of this DEIR/DEIS.)</p> <p><b>Timing:</b> Before approval of grading plans and through project construction, as appropriate for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Public Works, Building and Safety, and Planning Departments and Sacramento Metropolitan Air Quality Management District.</p> <p><b>NP:</b> No mitigation measures are required.</p>	<p>Direct &amp; SU(m), No Indirect</p>	<p>No Direct, No Indirect</p>			

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.15-3: Generation of Local Mobile-Source CO Emissions.</b> Project-generated local mobile-source CO emissions would not result in or substantially contribute to concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.15-4: Exposure of Sensitive Receptors to Short- and Long-Term Emissions of Toxic Air Contaminants.</b> Project implementation would result in exposure of receptors to short- and long-term emissions of TACs from on-site mobile and stationary sources.</p> <p><b>PP, HD, IM, NF: Develop a Plan to Reduce Emissions and Implement Measures to Control Exposure of Sensitive Receptors to Toxic Air Emissions.</b> The project applicant(s) for all project phases shall develop a plan to reduce the exposure of sensitive receptors to TACs from project construction and operation. The plan shall be submitted to the City for review and approval before the approval of any grading plans.</p> <p>With respect to project construction, the plan may include such measures as scheduling activities when the residences are the least likely to be occupied, requiring equipment to be shut off when not in use, and prohibiting heavy trucks from idling. Applicable measures shall be included in all project plans and specifications for all project phases.</p> <p>With respect to project operation for all project phases, the plan may include such measures as the following:</p> <ul style="list-style-type: none"> <li>▶ Before the issuance of any certificates of occupancy or final inspections for on-site sensitive land uses (e.g., residences, schools) in close proximity to mining operations (i.e., within 1,000 feet), the City shall ensure that associated mining activities have concluded.</li> <li>▶ Proposed commercial/convenience land uses (e.g., loading docks) that have the potential to emit TACs shall be located as far away as possible from existing and proposed sensitive receptors (i.e., 1,000 feet).</li> <li>▶ When determining the exact type of facility that would occupy the proposed commercial/convenience space, the project shall take into consideration the facility's TAC-producing potential.</li> </ul> <p>The following additional guidelines are recommended in ARB's <i>Air Quality and Land Use Handbook: A Community Health Perspective</i> (California Air Resources Board 2005a) and are considered to be advisory and not regulatory:</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>▶ Sensitive receptors, such as residential units and daycare centers, shall not be located in the same building as dry-cleaning operations that use perchloroethylene. Dry-cleaning operations that use perchloroethylene shall not be located within 300 feet of any sensitive receptor. A setback of 500 feet shall be provided for operations with two or more machines. Large gasoline stations (defined as facilities with a throughput of 3.6 million gallons per year or greater) and sensitive land uses shall not be sited within 300 feet of each other. Small gasoline-dispensing facilities (less than 3.6 million gallons of throughput per year) and sensitive land uses shall not be sited within 50 feet of each other.</p> <p><b>Timing:</b> Before the approval of all grading plans and throughout project construction, where applicable for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.15-5: Possible Exposure of Sensitive Receptors to Odorous Emissions.</b> Construction and long-term operation of the project could generate odorous emissions, thereby exposing sensitive receptors to such emissions.</p> <p><b>PP, HD, IM, NF: Implement Measures to Control Exposure of Sensitive Receptors to Odorous Emissions.</b> The project applicant(s) for all project phases shall implement the following measures:</p> <ul style="list-style-type: none"> <li>▶ Commercial/convenience land uses that have the potential to emit objectionable odors shall be located as far away as feasible from existing and proposed sensitive receptors.</li> <li>▶ Delivery areas shall be located as far away as feasible from existing and proposed sensitive receptors.</li> <li>▶ The odor-producing potential of land uses shall be considered when the exact type of facility that would occupy commercial/convenience areas is determined.</li> <li>▶ Before approval of building permits, odor control devices shall be identified to mitigate the exposure of receptors to objectionable odors if a potentially odor-producing source is to occupy space in the commercial/convenience area. The identified odor control devices shall be installed before the issuance of certificates of occupancy for the potentially odor-producing use. The odor-producing potential of a source and control devices shall be determined in coordination with SMAQMD and based on the number of complaints associated with existing sources of the same nature.</li> </ul> <p><b>Timing:</b> Before the approval of building permits and certificates of occupancy for commercial uses for all project phases.</p> <p><b>Enforcement:</b> City of Rancho Cordova Building and Safety and Planning Departments.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.15-6: Possible Exposure to Hazardous Indoor Emissions of Air Pollutants.</b> Project implementation could result in the exposure of construction workers or future residents to indoor emissions of air pollutants that would pose a threat to human health.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.15-7: Increase in Long-Term Atmospheric Greenhouse Gas Emissions.</b> Project implementation could contribute to an increase in atmospheric GHG concentrations. GHGs contribute to a rise in Earth’s global average temperature, a phenomenon known as global warming. The project could generate substantial new GHG emissions at a rate that exceeds levels that would be needed to help achieve the objectives of AB 32, the California Climate Solutions Act of 2006.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.15-2. <b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<b>Project Level (Phase 1)</b>					
<p><b>3.15-8: Generation of Temporary, Short-Term Construction Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>.</b> Construction activity associated with development Phase 1 would generate temporary, short-term emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Because of the large size of the Phase 1 development area, construction-generated emissions of NO<sub>x</sub>, an ozone precursor, would exceed the SMAQMD-recommended thresholds and substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.15-1. <b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.15-9: Generation of Long-Term Operational (Regional) Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>.</b> Operational area- and mobile-source emissions from implementation of the project would exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, and would result in or substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS. In addition, because of the large increase in emissions associated with Phase 1 development and the fact that the project is not within an already approved plan (meaning that increased emissions would not already be accounted for in applicable air quality plans), project implementation could conflict with air quality planning efforts.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.15-2.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>3.15-10: Generation of Local Mobile-Source CO Emissions.</b> Project-generated local mobile-source CO emissions would not result in or substantially contribute to concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.15-11: Exposure of Sensitive Receptors to Short- and Long-Term Emissions of Toxic Air Contaminants.</b> Implementation of development Phase 1 would result in exposure of receptors to short- and long-term emissions of TACs from on-site mobile and stationary sources.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.15-4.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.15-12: Possible Exposure of Sensitive Receptors to Odorous Emissions.</b> Construction and long-term operation of development Phase 1 could generate odorous emissions, thereby exposing sensitive receptors to such emissions.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.15-5.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.15-13: Possible Exposure to Hazardous Indoor Emissions of Air Pollutants.</b> Implementation of development Phase 1 could result in the exposure of construction workers or future residents to indoor emissions of air pollutants that would pose a threat to human health.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.15-14: Increase in Long-Term Atmospheric Greenhouse Gas Emissions.</b> Implementation of development Phase 1 could contribute to an increase in atmospheric GHG concentrations, resulting in an associated rise in Earth’s global average temperature, a phenomenon known as global warming. Phase 1 of the project could generate substantial new GHG emissions at a rate that exceeds levels that would be needed to help achieve the objectives of AB 32, the California Climate Solutions Act of 2006.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.15-2.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>3.16 NOISE</b>					
<b>Program Level</b>					
<b>3.16-1: Temporary Exposure to Construction-Generated Noise.</b> Project construction activities could temporarily exceed applicable standards at nearby noise-sensitive receptors.	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF: Implement Measures to Prevent Exposure of Sensitive Receptors to Temporary Construction-Generated Noise.</b> To reduce impacts associated with noise generated during construction activities, the project applicant(s) for all project phases shall conform to the following requirements:</p> <ul style="list-style-type: none"> <li>▶ Noise-generating construction operations shall be limited to the hours between 7 a.m. and 7 p.m. Monday through Friday, and between 8 a.m. and 6 p.m. on Saturday and Sunday.</li> <li>▶ All construction equipment and equipment staging areas shall be located as far as possible from nearby noise-sensitive land uses.</li> <li>▶ All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.</li> <li>▶ All motorized construction equipment shall be shut down when not in use to prevent idling.</li> <li>▶ The following measures shall be required for exterior activities that involve the use of heavy-duty construction equipment (see Table 3.16-8) located within 800 feet of occupied noise-sensitive daytime land uses (e.g., school classrooms, childcare and convalescent care facilities, inpatient medical facilities, places of worship): <ul style="list-style-type: none"> <li>• Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site).</li> <li>• Written notification of construction activities shall be provided to all noise-sensitive receptors located within 800 feet of construction activities. Notification shall include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, for the project representative to be contacted in the event that noise levels are deemed excessive. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall also be included in the notification.</li> <li>• To the extent feasible, acoustic barriers (e.g., lead curtains, sound barriers) shall be constructed to reduce construction-generated noise levels at affected noise-sensitive land uses. The barriers shall be designed to obstruct the line of sight between the noise-sensitive land use and on-site construction equipment. When installed properly, acoustic barriers can reduce construction noise levels by approximately 8–10 dBA (EPA 1971).</li> </ul> </li> </ul>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>Timing:</b> During all phases of project construction.</p> <p><b>Enforcement:</b> City of Rancho Cordova Planning Department.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.16-2: Potential Exposure to Stationary-Source Noise Generated by On-Site Land Uses.</b> Project implementation could result in potential exposure of sensitive receptors to noise levels from on-site stationary sources in excess of applicable standards.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF: Implement Measures to Reduce Potential Exposure of Sensitive Receptors to Stationary Source-Generated Noise.</b> To reduce potential long-term exposure of sensitive receptors to noise generated by City-controlled, project-related stationary noise sources from private activities, the City shall evaluate individual facilities, subdivisions, and other project elements for compliance with the City’s noise ordinance and policies contained in the City General Plan. All project elements shall comply with City noise standards. The project applicant(s) for all project phases shall implement the following measures to assure maximum reduction of project interior and exterior noise levels from operational activities:</p> <ul style="list-style-type: none"> <li>▶ The proposed land uses shall be designed so that on-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks, parking lots, and recreational-use areas) are located as far as possible from or shielded from nearby noise-sensitive land uses.</li> <li>▶ Residential air conditioning units shall be located a minimum of 10 feet from adjacent residential dwellings, including outdoor entertainment and relaxation areas, or shall be shielded to reduce operational noise levels at adjacent dwellings or designed to meet City noise standards. Shielding may include the use of fences or partial equipment enclosures. To be effective, fences or barriers need to be continuous or solid, with very few gaps, and must block the line of sight to windows of neighboring dwellings. Achieved noise reductions from fences or barriers can vary, but typically range from approximately 5 to 10 dBA, depending on construction characteristics, height, and location.</li> <li>▶ To the extent feasible, residential land uses located within 2,500 feet and within the direct line of sight of major noise-generating commercial and industrial land uses (e.g., loading docks, manufacturing facilities, equipment/vehicle storage and repair facilities, and material processing areas such as concrete batch plants) shall be shielded from the line of sight of these facilities by construction of a sound barrier. To be effective, fences or sound barriers need to be continuous or solid, with very few gaps, and must block the line of sight to windows of neighboring dwellings. Achieved noise reductions from fences or barriers can vary, but typically range from approximately 5 to 10 dBA, depending on construction characteristics, height, and location. The developer shall obtain the services of a professional acoustician to determine the design and location of noise barriers to be constructed.</li> <li>▶ Dual-pane, noise-rated windows; mechanical air systems; exterior wall insulation; and other noise-reducing building materials shall be used.</li> </ul> <p>In addition, the City shall seek to reduce potential long-term exposure of sensitive receptors to noise generated by project-related stationary noise sources from public activities on school grounds, in neighborhood and community parks, and in open-space areas. Specifically, the City shall encourage the controlling agencies (i.e.,</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>schools and park and recreation districts) to implement measures to reduce project interior and exterior noise levels to within acceptable levels, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>▶ On-site landscape maintenance equipment shall be equipped with properly operating exhaust mufflers and engine shrouds, in accordance with manufacturers' specifications.</li> <li>▶ For maintenance areas located within 500 feet of noise-sensitive land uses, the operation of on-site landscape maintenance equipment shall be limited to the least noise-sensitive periods of the day, between the hours of 7 a.m. and 7 p.m.</li> <li>▶ Outdoor use of amplified sound systems within 500 feet of noise-sensitive land uses shall be permitted only between 7 a.m. and 10 p.m. Sunday through Thursday, and between 7 a.m. and 11 p.m. on Friday and Saturday.</li> <li>▶ During subsequent environmental review of future project phases, the project applicant(s) shall demonstrate that the amphitheater and adjacent residences have been designed to reduce noise exposure to noise-sensitive uses to the maximum extent feasible. An acoustical engineer with experience in the prediction and mitigation of outdoor theater sound levels shall be consulted prior to design and construction of the proposed amphitheater and residences proposed within 1,500 feet of the amphitheater. The acoustical engineer shall identify all feasible mitigation measures available for reducing noise-related impacts to nearby noise-sensitive receptors. Mitigation measures may include, but are not limited to, orientation and location of amphitheater, construction of noise barriers, limitations on speaker orientation, limitations on noise-generation levels, and hours of activity. The project applicant(s) shall incorporate the mitigation measures into the design and operation of the amphitheater and nearby residential uses.</li> </ul> <p><b>Timing:</b> During design review and before the approval of all improvement plans, where applicable for all project phases. For measures that the City should encourage other agencies to undertake, before the approval of final maps for all project phases for noise-generating school and park and recreation sites</p> <p><b>Enforcement:</b> City of Rancho Cordova Building and Safety, and Planning Departments.</p> <p><b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.16-3: Potential Exposure to Off-Site Stationary-Source Noise.</b> Project implementation could result in potential exposure of proposed sensitive receptors to noise levels from off-site stationary sources in excess of applicable standards.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.16-2.</p> <p><b>Timing:</b> During design review and before the approval of all improvement plans, where applicable for all project phases. For measures that the City should encourage other agencies to undertake, before the approval of final maps for noise-generating school and park and recreation use sites.</p> <p><b>Enforcement:</b> City of Rancho Cordova Building and Safety, and Planning Departments.</p>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<b>NP:</b> No mitigation measures are required.					
<b>3.16-4: Project-Generated Increases in Traffic Noise Levels on Area Roadways.</b> Project implementation would introduce new traffic to area roadways, resulting in an associated increase in traffic noise levels.	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.					
<b>3.16-5: Compatibility of Proposed Land Uses with Projected Noise Levels.</b> Noise levels could exceed the City’s applicable land-use compatibility noise standards at proposed noise-sensitive land uses located close to airport, roadway, and mining noise sources.	Direct & Indirect SU(m)	Direct & Indirect SU(m),	Direct & Indirect SU(m)	Direct & Indirect SU(m)	No Direct, No Indirect
<b>PP, HD, IM, NF: Implement Measures to Improve Land Use Compatibility with Noise Sources.</b> To meet City noise standards set forth in the City’s General Plan and Noise Ordinance and improve compatibility between project land uses and noise sources, the project applicant(s) for all project phases shall implement the following for all project phases:					
<ul style="list-style-type: none"> <li>▶ Implement Mitigation Measure 3.16-2, described above.</li> <li>▶ Obtain the services of a consultant (such as a licensed engineer or licensed architect) to develop noise attenuation measures for the proposed construction of on-site noise-sensitive land uses (i.e., residential dwellings and school classrooms) that will produce a minimum composite Sound Transmission Class (STC) rating for buildings of 30 or greater, individually computed for the walls and the floor/ceiling construction of buildings, for the proposed construction of on-site noise-sensitive land uses (i.e., residential dwellings and school classrooms).</li> <li>▶ When tentative subdivision maps and commercial uses are proposed, the applicant(s) shall conduct a site-specific acoustical analysis to determine predicted roadway noise impacts attributable to the project, taking into account site-specific conditions (e.g., site design, location of structures, building characteristics). The acoustical analysis shall evaluate stationary- and mobile-source noise attributable to the proposed use or uses and impacts on nearby noise-sensitive land uses, in accordance with adopted City noise standards. Feasible measures shall be identified to reduce project-related noise impacts. Measures may include, but are not limited to, the following: <ul style="list-style-type: none"> <li>• construction of exterior sound walls;</li> <li>• use of increased noise-attenuation measures in building construction (e.g., dual-pane, sound-rated windows; exterior wall insulation); and</li> <li>• limiting noise-generating operational activities associated with proposed commercial land uses, including truck deliveries.</li> </ul> </li> </ul>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>In addition, to reduce impacts associated with noise generated during ongoing mining activities, the project applicant(s) for all project phases shall implement the following measures where mining activities would be located within 1,100 feet of occupied noise-sensitive daytime land uses (e.g., school classrooms, childcare and convalescent care facilities, inpatient medical facilities):</p> <ul style="list-style-type: none"> <li>▶ Written notification of mining activities shall be provided to noise-sensitive receptors located within 1,100 feet of mining activities. Notification shall include anticipated hours during which mining activities are anticipated to occur and contact information, including a daytime telephone number, for the project representative to be contacted if noise levels are deemed excessive. The notification shall also include recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors).</li> <li>▶ Occupied noise-sensitive receptors shall not be located within 1,100 feet of mining equipment/activities unless a temporary barrier is constructed in accordance with the following specifications: <ul style="list-style-type: none"> <li>• The barrier shall be placed as close to the noise source or as close to the receptor as possible and shall break the line of sight between the source and receptor.</li> <li>• The barrier shall be constructed of three-quarter-inch Medium Density Overlay (MDO) plywood sheeting, or other acceptable material that has a surface weight of 2 pounds per square foot (lb/sf) or greater, and a demonstrated STC rating of 25 or greater as defined by American Society for Testing and Materials (ASTM) Test Method E90.</li> <li>• If a temporary acoustical curtain is used, the material shall be weather and abuse resistant and shall exhibit superior hanging and tear strength during construction, with a surface weight of at least 1 lb/sf. The material shall have a minimum breaking strength of 120 pounds per inch (lb/in) per Federal Test Method Standard (FTMS) 191 A-M5102 and a minimum tear strength of 30 lb/in per ASTM D117. Based on the same test procedures, the absorptive material facing shall have a minimum breaking strength of 100 lb/in and a minimum tear strength of 7 lb/in. The material shall have an STC rating of 25 or greater, based on certified sound transmission loss data taken according to ASTM Test Method E90. It shall also have a Noise Reduction Coefficient rating of 0.70 or greater, based on certified sound absorption coefficient data according to ASTM Test Method C423.</li> <li>• When barrier units are joined together, the mating surfaces of the barrier sides shall be flush with each other. Gaps between barrier units, and between the bottom edge of the barrier panels and the ground, shall be closed with material that will completely close the gaps, and be dense enough to attenuate noise.</li> </ul> </li> </ul> <p>Furthermore, to reduce impacts associated with aircraft noise, the project applicant(s) for all project phases shall implement the following measures:</p> <ul style="list-style-type: none"> <li>▶ Ensure that aviation easements are prepared before completion of final maps, and submitted with the final maps to the Department of Airports. Such an aviation easements shall acknowledge the property's location within the MAPA and shall grant the right of flight and unobstructed passage of all aircraft into and out of Mather Airport.</li> <li>▶ Provide notification in a public report, to be prepared by the California Department of Real Estate, disclosing to prospective buyers that parcels to be purchased are located within the MAPA and that an aviation easement exists for aircraft into and out of Mather Airport.</li> </ul>					

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<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>► Revise relevant portions of project land use plans to be compatible with the existing noise contours if the proposed Mather Airport noise contours are not adopted.  <b>Timing:</b> Before the recordation of final maps and during all project construction activities for all project phases where applicable.  <b>Enforcement:</b> City of Rancho Cordova Planning Department.  <b>NP:</b> No mitigation measures are required.</p>					
<p><b>3.16-6: Potential Exposure to Single-Event Aircraft Noise Levels Exceeding Applicable Standards.</b> Project implementation could result in exposure of proposed sensitive receptors to single-event aircraft noise levels in excess of applicable standards.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.16-5.  <b>Timing:</b> Before the recordation of final maps and during all project construction activities for all project phases where applicable.  <b>Enforcement:</b> City of Rancho Cordova Planning Department.  <b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<b>Project Level (Phase 1)</b>					
<p><b>3.16-7: Temporary Exposure to Construction-Generated Noise.</b> Construction activities for development Phase 1 could temporarily exceed applicable standards at nearby noise-sensitive receptors.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.16-1.  <b>NP:</b> No mitigation measures are required.</p>	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	Direct & LTS(m), No Indirect	No Direct, No Indirect
<p><b>3.16-8: Potential Exposure to Stationary-Source Noise Generated by On-Site Land Uses.</b> Implementation of development Phase 1 could result in potential exposure of sensitive receptors to noise levels from on-site stationary sources in excess of applicable standards.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.16-2.  <b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

<b>Table ES-1 Summary of the Program and Project Level (Phase 1) Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration</b>					
Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p><b>3.16-9: Potential Exposure to Off-Site Stationary-Source Noise.</b> Implementation of development Phase 1 could result in potential exposure of proposed sensitive receptors to noise levels from off-site stationary sources in excess of applicable standards.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.16-3.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect
<p><b>3.16-10: Project-Generated Increases in Traffic Noise Levels on Area Roadways.</b> Implementation of development Phase 1 would introduce new traffic to area roadways, resulting in an associated increase in traffic noise levels.</p> <p><b>PP, HD, IM, NF, NP:</b> No mitigation measures are required.</p>	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	Direct & LTS, No Indirect	No Direct, No Indirect
<p><b>3.16-11: Compatibility of Proposed Land Uses with Projected Noise Levels.</b> Under development Phase 1, noise levels could exceed the City's applicable land-use compatibility noise standards at proposed noise-sensitive land uses located close to airport, roadway, and mining noise sources.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.16-5.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & Indirect SU(m)	Direct & Indirect SU(m)	Direct & Indirect SU(m)	Direct & Indirect SU(m)	No Direct, No Indirect
<p><b>3.16-12: Potential Exposure to Single-Event Aircraft Noise Levels Exceeding Applicable Standards.</b> Implementation of development Phase 1 could result in exposure of proposed sensitive receptors to single-event aircraft noise levels in excess of applicable standards.</p> <p><b>PP, HD, IM, NF:</b> Implement Mitigation Measure 3.16-6.</p> <p><b>NP:</b> No mitigation measures are required.</p>	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	Direct & SU(m), No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

# 1 INTRODUCTION AND STATEMENT OF PURPOSE AND NEED

This document is a joint environmental impact report/environmental impact statement (EIR/EIS) prepared for the Rio del Oro Specific Plan project (the “proposed action” for purposes of the National Environmental Policy Act [NEPA] and the “proposed project” for purposes of the California Environmental Quality Act [CEQA]). This EIR/EIS has been prepared by both the City of Rancho Cordova (City), as lead agency under CEQA, and the U.S. Army Corps of Engineers (USACE), Sacramento District, as federal lead agency under NEPA. The EIR/EIS is a joint document intended to comply with both CEQA and NEPA. See California Code of Regulations (CCR), Title 14, Division 6, Chapter 3 (State CEQA Guidelines), Section 15222 (“Preparation of Joint Documents”); and Code of Federal Regulations (CFR), Title 40, Sections 1502.25, 1506.2, and 1506.4 (authority for combining federal and state environmental documents). See also 33 CFR Part 230 (USACE NEPA regulations) and 33 CFR Part 325, Appendix B (“NEPA Implementation Procedures for the [USACE] Regulatory Program”).

In its initial form, an EIR/EIS is composed primarily of a draft document known as a draft EIR/EIS (DEIR/DEIS), and the lead agencies’ written responses to public and public-agency comments on the draft document. This DEIR/DEIS evaluates the potential adverse impacts on the human and natural environment resulting from implementation of the proposed Rio del Oro Specific Plan project (proposed project/proposed action), hereinafter referred to as “the project.” The DEIR/DEIS proposes mitigation measures and alternatives that may reduce or avoid the significance of such adverse impacts. Following public review of the DEIR/DEIS a final EIR/EIS (FEIR/FEIS) will be prepared, in which the joint lead agencies will provide responses to significant comments relating to the analysis provided in the DEIR/DEIS.

A specific plan is a legislative development plan prepared in accordance with California planning statutes found in Government Code Section 65450 et seq. and the City’s Specific Plan Ordinance No. 11-2004. The goal of the specific plan is to establish a development framework for land use, resource protection, circulation, public utilities and services, and implementation and design. The project includes adoption of the specific plan itself and implementation of the associated development proposal. This DEIR/DEIS has been prepared under the direction of the City and USACE and in accordance with the requirements of CEQA and NEPA identified above.

This chapter of the DEIR/DEIS provides information on the following:

- ▶ the project requiring environmental analysis (i.e., a synopsis);
- ▶ project purpose and need and project objectives;
- ▶ history and planning context of the project;
- ▶ type, purpose, and intended uses of the DEIR/DEIS;
- ▶ scope and focus of the DEIR/DEIS;
- ▶ agency roles and responsibilities and required permits and approvals;
- ▶ organization of the DEIR/DEIS;
- ▶ documents relied on in the DEIR/DEIS; and
- ▶ standard terminology and acronyms.

## 1.1 PROJECT REQUIRING ENVIRONMENTAL ANALYSIS

The project applicant(s), Elliott Homes, Inc., and GenCorp Realty Investments (GenCorp), the parent company of Aerojet General Corporation (Aerojet), are requesting approval of various discretionary entitlements in support of a specific plan for a mixed-use development. The specific plan supports a combination of employment-generating uses, retail and supporting services, recreational uses, and a broad range of residential uses and associated infrastructure and roads on an approximately 3,828-acre site in eastern Sacramento County, south of U.S. Highway 50 (U.S. 50), in the city of Rancho Cordova. The property is located south of White Rock Road, north of Douglas Road, and east of Sunrise Boulevard (see Exhibits 2-1 and 2-2 in Chapter 2, “Alternatives”).

The proposed project (project) includes 11,601 residential units at various densities; more than 6,800,000 square feet of employment-generating uses (village commercial, shopping center, business park, industrial park); public/quasi-public uses; elementary, middle, and high schools; community and neighborhood parks; private recreational uses; stormwater detention basins; open-space areas and open-space preserves; a drainage parkway; greenbelts; major roads with landscaping; and a wetland preserve/mitigation bank.

Several off-site infrastructure facilities (road widening and extensions, sewer interceptors, water and wastewater treatment facilities, wastewater transmission mains, water pipelines and distribution systems and facilities, electrical transmission lines, and water tanks) are proposed to serve project development and are addressed in this DEIR/DEIS.

The project is analyzed in two components: Phase 1, which encompasses approximately the western 1,100 acres owned by Elliott Homes and is estimated to be completed in 2014, and Phases 2–5, which encompass the remaining 2,728 acres owned by GenCorp and are anticipated to reach buildout by 2030.

## 1.2 PROJECT HISTORY AND PLANNING CONTEXT

Historical use of the project site includes grazing, gold mining, and activities associated with the aerospace industry. The project site forms a part of the historic 35,500-acre Mexican land grant *Rancho Rio de los Americanos*—lands that were used historically for grazing since the early 1800s. A large portion of the project site is still being used today as pastureland for cattle grazing. Beginning in the 1920s, most of the land in the project study area was acquired by the Natomas Company for bucket-line dredging of gold-bearing gravel deposits, which continued in the project vicinity through the early 1960s. The mining activities consisted of hydraulic dredging of ancient alluvial deposits to a depth of up to 120 feet. The areas that were mined are distinguished by alternating piles of rocky tailings and lower areas where the finer sediment settled out. Evidence of mining activities, including the piles of dredge tailings, covers approximately 70% of the surface area of the project site. Currently, a portion of the tailings is being processed for sand and gravel.

The site was sold to Aerojet in 1956 for use in development and testing of missile propulsion systems. McDonnell Douglas Corporation (MDC) initially leased the land from Aerojet for its rocket testing activities, and then bought it outright in 1961. MDC ceased operations at the site in 1969; Aerojet reacquired the land in 1984 for use primarily as a buffer zone from White Rock Road for rocket engine testing, but also as a place to burn excess rocket fuel and test small quantities of energetic material. Limited development of the site during this time included construction of paved and unpaved access roads, various structures and buildings, and a limited infrastructure of utilities and drainage improvements. Numerous buildings, roads, and structures associated with the prior use remain on the site today, primarily in the southern/central portion of the project site.

In 1994, Aerojet and MDC agreed to investigate certain areas of concern on the project site pursuant to the requirements of a consent order with the California Department of Toxic Substances Control (DTSC), and to complete necessary remediation of contaminated soil and groundwater (see Exhibits 3.13-1 and 3.13-2 in Section 3.13, “Hazards and Hazardous Materials”).

As of the date of this writing, there are eight remaining DTSC areas of concern comprising approximately 460 acres. These areas of concern and the groundwater underneath the project site are undergoing various levels of review and/or remedial action. Some areas have been fully investigated, and DTSC has determined that several locations require no remedial action with regard to soil (see Section 3.13, “Hazards and Hazardous Materials”). Approved remedial-action plans are under way in some areas, while others are still in the investigation phase.

During the mid-1990s, while site evaluations were proceeding, Aerojet met with DTSC on numerous occasions to discuss long-range redevelopment plans for the property, including large passive buffer areas that were not utilized in either aerospace or industrial operations. In 1997, DTSC agreed with Aerojet that soils within much of the passive buffer area were indeed clean, should not be included within the consent order, and were suitable for

potential redevelopment use. Currently, approximately 2,728 acres of the site are still under the consent order and are owned by GenCorp (parent company of Aerojet), while approximately 1,100 acres have been removed from the consent order and are owned by Elliott Homes. These 1,100 acres constitute Phase 1 of the project. The remaining 2,728 acres constitute Phases 2–5 of the project.

On July 3, 1998, GenCorp submitted an application to the County of Sacramento (County) for a general plan amendment and rezone on the 1,100 acres subsequently purchased by Elliott Homes in 2001. To accompany the private application, the County Board of Supervisors initiated a planning process for the Rio del Oro project. In addition, a technical advisory team was established, including representatives of various County departments or divisions, to review and comment on the proposed Rio del Oro project and the technical studies that would be needed to support the planning process.

In fall 2003, the City initiated the CEQA process for the proposed Rio del Oro Specific Plan project. Because implementation of the proposed action would require federal discretionary authorization and permits (Department of the Army under Section 404 of the Clean Water Act and Section 7 of the federal Endangered Species Act [ESA]), the project is also subject to the requirements of NEPA. Therefore, the City and USACE initiated the process of preparing a joint EIR/EIS in fall 2003.

Rancho Cordova officially became a city under the laws of the State of California on July 1, 2003. Upon incorporation, the City adopted applicable portions of the County’s general plan and zoning ordinance, as well as applicable community and specific plans, and zoning designations in areas within the newly incorporated city. On August 2, 2004, the City finalized a “Vision Book.” The Vision Book was not an adopted land use plan, but presented ideas consistent with the City’s vision for future growth and development, consistent with policies of the Sacramento Area Council of Governments (SACOG). In May 2005, the City adopted interim Land Use and Circulation Elements. On June 26, 2006, the *Rancho Cordova General Plan* (City General Plan) was adopted.

## **1.3 PROJECT PURPOSE, NEED, AND OBJECTIVES**

The proposed action has been formulated to achieve the purpose, objectives, and needs of the project, as summarized below. NEPA regulations (40 CFR 1502.13) require that an EIS contain a statement of the purpose and need that “briefly specif[ies] the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action.” State CEQA Guidelines Section 15124(b) requires that the project description contain a clear statement of the project objectives, including the underlying purpose of the project. The statement of purpose and need is important under NEPA in helping USACE (co-lead agency), and the statement of objectives is important under CEQA in helping the City (co-lead agency), to develop a reasonable range of alternatives to the project/action for evaluation in the EIR/EIS.

### **1.3.1 PROJECT PURPOSE AND NEED**

The City and USACE each view the project purpose from the purview of their responsibilities. The City is interested in the orderly development of lands within its planning boundaries. USACE’s interest extends to its permit authority with respect to regulation of waters of the United States.

#### **PROJECT PURPOSE AND NEED: CITY OF RANCHO CORDOVA CONSIDERATIONS**

Elliott Homes and GenCorp (i.e., the project applicant[s]) are seeking various approvals necessary to develop the Rio del Oro project site, a 3,828-acre former mining and industrial property that is one of the largest undeveloped infill areas within Rancho Cordova, and a key area for focusing new development under the City General Plan. The proposed mix of land uses, with a predominance of housing but commercial and retail uses as well, is intended to help alleviate the City’s current jobs/housing imbalance, thereby reducing vehicle miles traveled, citywide congestion, and air pollution over the long term, while also providing sufficient tax revenues to avoid creating fiscal burdens on the newly incorporated City.

By locating a mix of housing types at an infill site south of the American River, an area of Rancho Cordova long planned for development, and proximate to major existing or planned infrastructure such as U.S. 50, light rail along the U.S. 50 corridor, and Section 7 of the Bradshaw Sewer Interceptor, the project would allow the City to reduce the trip distances currently traveled in and out of the Rancho Cordova area by locating residences proximate to existing and future job-generating uses. The current jobs/housing imbalance in the Rancho Cordova area currently adds a heavy traffic burden to the U.S. 50 corridor, American River bridges, and local roadways. The project would also contribute to regional growth management by focusing market demand for development onto an infill site that is both already highly disturbed and contiguous with existing development, thereby reducing long-term development pressures that would otherwise be felt in more environmentally sensitive areas less proximate to existing urban land uses.

The project would transform a site historically used for grazing, dredging and by Aerojet, a major aerospace company, into a mixed-use development. The site would also make an economically viable use of a significant portion of Aerojet's available buffer lands, which are currently zoned for industrial uses for which there is not currently an adequate market demand.

## **PROJECT PURPOSE AND NEED: U.S. ARMY CORPS OF ENGINEERS**

USACE has determined that the overall project purpose and need are to provide a large-scale mixed-use community within Sacramento County. The applicant has indicated that there is a need for additional residential and commercial development within the City of Rancho Cordova.

### **1.3.2 PROJECT OBJECTIVES**

Outlined below are the main project objectives defined by the project applicant(s) for the proposed Rio del Oro development. These objectives are important for the selection and consideration of CEQA alternatives.

- ▶ Develop a well-integrated mixed-use master-planned community.
- ▶ Provide employment-generating uses, including a regional town center, to the city and the surrounding region that will result in long-term community benefits, including generation of substantial permanent employment opportunities and needed retail uses along the Sunrise Boulevard corridor and fiscal benefits from tax-generating land uses.
- ▶ Provide a diversity of housing types that will help alleviate the existing and future jobs/housing imbalance in the city and surrounding region, with particular emphasis on affordability and proximity to the major employment-generating centers along the U.S. 50 corridor and major existing or planned infrastructure (e.g., light rail and Section 7 of the Bradshaw Interceptor).
- ▶ Provide a pedestrian-friendly, human-scale community environment that provides a safe and pleasant place for people to live, work, and recreate.
- ▶ Provide a balance between the urban environment and existing sensitive biological habitat through retention, enhancement, or creation, where feasible, and by focusing market demand for development into a highly disturbed infill area to reduce long-term development pressures in more environmentally sensitive areas less proximate to existing urban uses.
- ▶ Facilitate the implementation of regional and city transportation circulation linkages (especially Rancho Cordova Parkway and Americanos Boulevard from the project site north to U.S. 50), facilitate the expansion and use of alternative modes of transportation, and integrate the project site with the surrounding development and circulation pattern by creating street and pedestrian/bicycle access throughout the project site to enable trips without depending exclusively on major roads, secondary roads, or the automobile.

## 1.4 INTENDED USES AND TYPE OF ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL IMPACT STATEMENT

### 1.4.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

According to the State CEQA Guidelines (14 CCR Section 15064[f][1]), preparation of an EIR is required whenever a project may result in a significant environmental impact. An EIR is an informational document used to inform public agency decision makers and the general public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project.

CEQA requires that state and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects (Public Resources Code Section 21000 et seq.). CEQA also requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant environmental effects of projects it approves or implements. If a project would result in significant and unavoidable environmental impacts that cannot be feasibly mitigated to less-than-significant levels, the project can still be approved, but the lead agency's decision makers must issue a "statement of overriding considerations" explaining in writing the specific economic, social, or other considerations that they believe make those significant effects acceptable.

### 1.4.2 NATIONAL ENVIRONMENTAL POLICY ACT

NEPA provides an interdisciplinary framework for federal agencies to develop information that will help them to take environmental factors into account in their decision-making (42 United States Code [USC] 4321, 40 CFR 1500.1). According to NEPA, an EIS is required whenever a proposed major federal action (e.g., a proposal for legislation or an activity financed, assisted, conducted, or approved by a federal agency) would result in significant effects on the quality of the human environment.

Much of the development contemplated by the proposed specific plan is dependent upon federal action because such development would require federal permits for one or more of the following activities: (i) discharges of fill material into waters of the United States, and (ii) activities affecting plant or animal species protected by the ESA (16 USC 1531 et seq.). An EIS is an informational document used by federal agencies in making decisions. An EIS is intended to provide full and open disclosure of environmental consequences prior to agency action; an interdisciplinary approach to project evaluation; objective consideration of all reasonable alternatives; application of measures to avoid or reduce adverse impacts; and an avenue for public and agency participation in decision-making (40 CFR 1502.1). NEPA defines mitigation as avoiding, minimizing, rectifying, reducing, or compensating for significant effects of the proposed action (40 CFR 1508.20).

NEPA requires that a lead agency "include (in an EIS) appropriate mitigation measures not already included in the proposed action or alternatives" (40 CFR 1502.14[f]). An EIS shall also include discussions of "means to mitigate adverse environmental impacts (if not fully covered under Section 1502.14[f])." In preparing a record of decision under 40 CFR 1505.2, a lead agency is required to "[s]tate *whether* all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for *any* mitigation." (Italics added.)

The proposed action consists of several individual project components that are related closely enough to be considered a single course of action.

This EIR/EIS contains both program- and project-level components. Phase 1 (Elliott Homes) includes relatively precise development plans, so it may be evaluated in a detailed project-level analysis. The remaining phases (GenCorp) may require further environmental analysis and additional agency approvals when tentative maps are submitted after adoption of the specific plan, particularly if site-specific issues peculiar to certain parcels were not addressed at the broader program level of analysis found in this document.

### **1.4.3 PROGRAM ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT**

This EIR/EIS includes only program-level or “first-tier” analysis for some purposes, consistent with California Public Resources Code Sections 21093 and 21094, 14 CCR Sections 15152 and 15168, and 40 CFR 1500.4(i), 1502.4(b), and 1502.20. This program-level or “programmatically” analysis evaluates the requested actions as they relate to the proposed land use designations for the overall specific plan (refer to Chapter 2, “Alternatives,” for further detail on the overall project).

The program-level analysis considers the broad environmental effects of the overall specific plan. This program EIR/EIS also identifies performance standards (e.g., setbacks, measures to protect biological and visual resources) and mitigation measures that would apply to all subsequent, future project phases under the specific plan (as conditions of approval) at the Rio del Oro project site. These performance standards would be incorporated into the Rio del Oro Specific Plan to avoid or reduce impacts to the degree feasible. In addition, the program-level analysis addresses the cumulative impacts of development of the project and analyzes a reasonable range of alternative land use maps at an equal level of detail. A No Project Alternative is also analyzed as required by CEQA and NEPA, as well as a No USACE Permit Alternative as required by USACE NEPA regulations.

The project encompasses five separate phases of development. To move forward with a specific phase, the project applicant will submit a tentative subdivision map/improvement plan for each phase. At that time, the City will require compliance with the Rio del Oro Specific Plan performance standards and mitigation measures set forth in the EIR/EIS and incorporated into the Rio del Oro Specific Plan for each tentative subdivision map/improvement plan as conditions of approval. CEQA includes a number of different but complementary means for streamlining environmental review consistent with an approved general plan, specific plan, or zoning action. More than one of these provisions might apply to future entitlements within the approved specific plan area. (See Public Resources Code Section 21083.3 [streamlined review for projects consistent with general plans, community plans, or zoning actions for which an EIR was prepared]; 14 CCR Section 15183 [same]; Public Resources Code Sections 21093 and 21094 [tiering]; 14 CCR Section 15152 [same]; California Government Code Section 65457 [CEQA exemption for residential projects within a specific plan for which an EIR was prepared]; and 14 CCR Section 15182 [same]. See also City Ordinance No. 11-2004 regarding the preparation of specific plans.) The extent of environmental review, if any, for future development entitlements will depend on a number of factors, including the streamlining provision of CEQA that seems most applicable to a particular proposed entitlement; consistency of the development with the adopted specific plan; and the extent to which the programmatic analysis, performance standards, and mitigation measures have anticipated and accounted for the site-specific impacts of the requested entitlements.

In addition, project-level analysis under NEPA is also provided for those areas outside development Phase 1 for which the project applicant (GenCorp) has provided USACE with sufficient information to determine whether to approve a Section 404 permit. These areas are located within 250 feet of several large wetland features generally located in the southern portion of the project site. USACE anticipates that they will be able to complete a Section 404 permit decision for these areas without additional NEPA analysis beyond this EIR/EIS, as long as there are no substantial deviations from proposed uses or the condition of these uses.

## **1.4.4 PROJECT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT**

In addition to the programmatic analysis described above, the EIR/EIS also includes a more detailed project-level analysis of the initial phase (Phase 1) of the proposed Rio del Oro project, which one of the project applicant(s) (Elliott Homes) is currently requesting entitlements to implement. As more fully described in Chapter 2, “Alternatives,” components associated with the proposed 1,100-acre Phase 1 development are analyzed at a project level of detail. The development proposal for this phase of the project contains enough specificity for a site-specific, project-level environmental review under both NEPA and CEQA, and will allow the consideration of discretionary approvals, such as tentative subdivision maps and use permits for this phase of the project. The City’s intention in evaluating Phase 1 at a project level of detail is that no further EIRs or negative declarations will be required for additional regulatory approvals following adoption of the specific plan, barring the occurrence of any of the circumstances described in Public Resources Code Section 21166. USACE similarly intends this document to provide sufficient formal NEPA analysis for development of Phase 1.

## **1.5 SCOPE AND FOCUS OF THE ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT**

Pursuant to CEQA, NEPA, and the State CEQA Guidelines, the discussion of potential effects on the environment in this EIR/EIS is focused on those impacts that the City and USACE have determined may be potentially significant.

To make a preliminary determination of which impacts may be potentially significant, the City prepared an initial study (IS) on the project concept in December 2003 (Appendix A). The IS concluded that the project may have significant effects related to aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology/water quality, land use and planning, noise, population and housing, public services, recreation, transportation/traffic, and utilities and services systems. On December 12, 2003, the City issued a notice of preparation (NOP) (Appendix B) to inform agencies and the general public that a joint EIR/EIS was being prepared, and invited comments on the scope and content of the document and participation at a public scoping meeting. The NOP was published in the State Clearinghouse and was mailed to approximately 15 state agencies. It was also posted on the City’s website. The NOP was circulated for 30 days as mandated by CEQA. The public-comment period for the NOP closed on February 12, 2004.

On January 30, 2004, USACE issued a notice of intent (NOI) (Appendix B) to inform agencies and the general public that a joint EIR/EIS was being prepared and invited comments on the scope and content of the document. At that time USACE announced that it had developed a public-involvement program allowing opportunities for public participation and involvement in the NEPA process. The NOI also provided information on the dates and times of public scoping meetings. The NOI was published in the *Federal Register*, Vol. 69, No. 24, on February 5, 2004. The NOI was also posted on the City’s website. There is no mandated time limit to receive written comments in response to the NOI under NEPA.

The City and USACE jointly held two public scoping meetings to solicit input from the community and public agencies to be considered in project design, alternatives selection, and on the scope and content of the EIR/EIS. The meetings were held on February 26, 2004, at 2:00 p.m. at the Rancho Cordova City Hall, and at 6:00 p.m. at the Mills Station light rail station in Rancho Cordova, California. Fourteen people from both the public and private sectors attended the two meetings.

Appendix B of this DEIR/DEIS contains a table listing the substantive comments on the NOP and NOI. Copies of the comment letters follow the table in Appendix B. Comments on the project applicant’s Section 404 permit application that were submitted to USACE are also included in the table.

This DEIR/DEIS includes an evaluation of 16 environmental issue areas and other NEPA- and CEQA-mandated issues (e.g., cumulative impacts, growth-inducing impacts). The 16 environmental issue areas are as follows:

- ▶ Land use
- ▶ Population, employment, and housing
- ▶ Environmental justice (NEPA)
- ▶ Drainage, hydrology, and water quality
- ▶ Utilities and services systems
- ▶ Public services
- ▶ Geology, soils, and mineral resources
- ▶ Paleontological resources
- ▶ Cultural resources
- ▶ Biological resources
- ▶ Visual resources
- ▶ Parks and recreation
- ▶ Hazards and hazardous materials
- ▶ Traffic and transportation
- ▶ Air quality
- ▶ Noise

CEQA and NEPA allow a lead agency to limit a discussion of the environmental effects in an EIR/EIS when the effects are not considered potentially significant.

## **1.6 AGENCY ROLES AND RESPONSIBILITIES**

### **1.6.1 LEAD AGENCIES**

The City of Rancho Cordova is the lead agency for the project under CEQA, and USACE, Sacramento District, is the federal lead agency under NEPA. The City has the principal responsibility for approving and carrying out the project and for ensuring that the requirements of CEQA have been met. USACE has the principal responsibility for making Clean Water Act Section 404 permit decisions and ensuring that the requirements of NEPA have been met. The following are the entitlements requested from the City for the project:

- ▶ adoption and implementation of the specific plan;
- ▶ adoption of a Public Facilities Financing Plan;
- ▶ adoption of a Public Facilities Infrastructure/Phasing Plan;
- ▶ approval of the Phase 1 tentative subdivision map; and
- ▶ approval of a development agreement between the City and the project applicant(s).

The project applicants (Elliott Homes and GenCorp) are requesting these approvals to accommodate proposed development on lands they control (i.e., lands owned). However, some approvals would apply to all lands in the specific plan area. It is anticipated that the City will also rely on this EIR/EIS without further environmental review for approval of other future discretionary entitlements and permits (e.g., small-lot tentative subdivision maps, design review approvals, use permits). The City will rely on this document to the degree that it adequately addresses the impacts of future development on the site (i.e., with respect to Phase 1 and possibly areas within later phases, depending on the circumstances). The proposed action represents a federal action because it would require one or more of the following federal permits and authorizations:

- ▶ Department of the Army permit under Section 404 of the Clean Water Act for discharges into waters of the United States, and
- ▶ ESA Section 7 consultation leading to issuance of a Biological Opinion and possible incidental-take statement for activities affecting endangered species.

## **1.6.2 TRUSTEE, RESPONSIBLE, AND COOPERATING AGENCIES**

Under CEQA, 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. One trustee agency, the California Department of Fish and Game, meets that definition with respect to resources potentially affected by the project.

Under CEQA, a responsible agency is an agency other than the lead agency that has legal responsibility for carrying out or approving a project or elements of a project (Public Resources Code Section 21069). Under NEPA, a cooperating agency is any federal agency other than the lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in an action requiring an EIS. Responsible and cooperating agencies are encouraged to actively participate in the CEQA and NEPA processes of the lead agencies, review the CEQA and NEPA documents of the lead agencies, and use the documents when making decisions on the project. Several agencies other than the City and USACE have jurisdiction over the implementation of the elements of the project, as identified below.

### **FEDERAL COOPERATING AGENCIES**

- ▶ U.S. Environmental Protection Agency
- ▶ U.S. Fish and Wildlife Service
- ▶ U.S. Department of Transportation, Federal Aviation Administration

### **STATE TRUSTEE AND RESPONSIBLE AGENCIES**

- ▶ California Air Resources Board
- ▶ California Department of Education
- ▶ California Department of Fish and Game
- ▶ California Department of Health Services
- ▶ California Department of Toxic Substances Control
- ▶ California Department of Transportation
- ▶ State Water Resources Control Board
- ▶ Central Valley Regional Water Quality Control Board
- ▶ Native American Heritage Commission
- ▶ State Historic Preservation Officer

### **REGIONAL AND LOCAL RESPONSIBLE AGENCIES**

- ▶ Zone 41 Water District
- ▶ Folsom Cordova Unified School District
- ▶ County of Sacramento
- ▶ Sacramento County Water Agency
- ▶ Sacramento County Local Agency Formation Commission
- ▶ Sacramento Metropolitan Fire District
- ▶ Sacramento County Municipal Services Agency

### 1.6.3 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

The following list identifies permits and other approval actions from federal, state, regional, and local agencies for which this EIR/EIS may be used during these agencies' decision-making processes. The following may be under the purview of regulatory agencies other than the lead agencies.

#### FEDERAL ACTIONS/PERMITS

- ▶ **U.S. Army Corps of Engineers:** Department of the Army permit under Section 404 of the Clean Water Act for discharges of dredge or fill material into waters of the United States. Consultation for impacts on cultural resources pursuant to Section 106 of the National Historic Preservation Act. Consultation for impacts on federally listed species pursuant to Section 7 of the ESA.
- ▶ **U.S. Environmental Protection Agency:** reviewing the EIS, filing, and noticing; concurrence with Section 404 Clean Water Act permit.
- ▶ **U.S. Fish and Wildlife Service:** ESA consultation and issuance of incidental-take authorization for the take of federally listed endangered and threatened species.

#### STATE ACTIONS/PERMITS

- ▶ **California Department of Education:** approval of new school sites for which state funding is sought.
- ▶ **California Department of Fish and Game, Sacramento Valley—Central Sierra Region:** potential California Endangered Species Act (CESA) consultation and issuance of take authorization (Fish and Game Code Section 2081), streambed alteration agreement (Fish and Game Code Section 1602), and protection of raptors (Fish and Game Code Section 3503.5).
- ▶ **California Department of Transportation:** possible encroachment permits.
- ▶ **Central Valley Regional Water Quality Control Board (Region 5):** National Pollutant Discharge Elimination System (NPDES) construction stormwater permit (NOI to proceed under General Construction Permit) for disturbance of more than 1 acre, discharge permit for stormwater, general order for dewatering, and Section 401 Clean Water Act certification or waste discharge requirements.

#### REGIONAL AND LOCAL ACTIONS/PERMITS

- ▶ **Sacramento County Local Agency Formation Commission:** approval of annexation to the service area of Sacramento Regional County Sanitation District and County Sanitation District No. 1.
- ▶ **Sacramento Metropolitan Air Quality Management District:** authority to construct (for devices that emit air pollutants), health risk assessment, and Air Quality Management Plan consistency determination.

### 1.7 PUBLIC PARTICIPATION AND ADDITIONAL STEPS IN THE CEQA/NEPA REVIEW PROCESS

This DEIR/DEIS is being distributed to interested agencies, stakeholder organizations, and individuals. This distribution ensures that interested parties have an opportunity to express their views regarding the environmental effects of the project, and to ensure that information pertinent to permits and approvals is provided to decision makers for the lead agencies, NEPA cooperating agencies, and CEQA responsible agencies. 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. The DEIR/DEIS is being distributed for a 60-day review period that will end on February 5, 2007.

Written comments postmarked no later than February 5, 2007, should be sent to the following addresses:

Patrick Angell  
City of Rancho Cordova  
2729 Prospect Park Drive  
Rancho Cordova, CA 95670  
Fax: (916) 361-1574  
E-mail: PAngell@pacificmunicipal.com

Anna Sutton  
U.S. Army Corps of Engineers, Regulatory Branch  
1325 J Street, Room 1480  
Sacramento, CA 95814-2922  
Fax: (916) 557-6877  
E-mail: Anna.M.Sutton@spk01.usace.army.mil

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.

A public hearing on the DEIR/DEIS will be conducted by the City and USACE at 6 p.m. on January 11, 2007, at Rancho Cordova City Hall, 2729 Prospect Park Drive, Rancho Cordova. It is not necessary to provide testimony during the public hearing; comments on the DEIR/DEIS will be accepted throughout the meeting and will be recorded at the public comment table. Comments may also be submitted throughout the comment period as described above.

Once all comments have been assembled and reviewed, responses will be prepared to address significant environmental issues that have been raised in the comments. The responses will be included in an FEIR/FEIS.

## **1.8 ORGANIZATION OF THIS ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT**

The content and format of this EIR/EIS are designed to meet the requirements of CEQA, the State CEQA Guidelines, the requirements of NEPA, the NEPA regulations issued by the Council on Environmental Quality (CEQ), and USACE NEPA regulations, as well as Appendix B to those regulations (NEPA implementation). The EIR/EIS is organized into the following chapters so that the reader can easily obtain information about the project and its specific environmental issues.

### **Volume I**

- ▶ The cover sheet identifies lead and any cooperating agencies, contact information for the lead agency contact person, the title of the project and its location, a brief description of the project, a brief abstract, and comment submission information.
- ▶ The Executive Summary presents an overview of the project and alternatives and associated environmental impacts/consequences; a listing of environmental impacts/consequences and mitigation measures; and impact conclusions regarding growth inducement, irreversible environmental changes, and known areas of controversy and issues to be resolved.
- ▶ Chapter 1, "Introduction and Statement of Purpose and Need," explains the CEQA and NEPA processes; lists the lead, cooperating, responsible, and trustee agencies that may have discretionary authority over the project;

specifies the underlying project purpose, need, and objectives to which the lead agencies are responding in considering the proposed action/project and project alternatives; outlines the organization of the document; and provides information on public participation.

- ▶ Chapter 2, “Alternatives,” presents the proposed project and the alternatives to the proposed project. This chapter constitutes the project description and describes the program and project characteristics and components, supporting on- and off-site infrastructure, and required entitlements for each alternative. This chapter also describes the proposed Rio del Oro Specific Plan and identifies the performance standards that will be incorporated into the specific plan and to which subsequent, tentative maps would be required to adhere to when submitted. This chapter provides an evaluation of each alternative in comparison with the proposed project, and describes alternatives considered but eliminated from further consideration.
- ▶ Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures,” is divided into 16 sections. The introduction to Chapter 3 explains the approach to the affected environment (i.e., environmental setting), presents the assumptions used in the environmental analysis, and provides definitions of the types of environmental effects. Each of the remaining sections is devoted to a particular topic area and describes the baseline, or existing conditions, and the regulatory setting, then provides an analysis of impacts at an equal level of detail for all project alternatives and mitigation measures that would avoid or eliminate significant impacts or reduce them to a less-than-significant level, where available. This chapter also identifies the cumulative effects of implementing the proposed project or one of the alternatives, against a backdrop of past, present, and reasonably foreseeable future projects.
- ▶ Chapter 4, “Other Statutory Requirements,” includes the list of cumulative projects/context for the assessment of cumulative impacts, growth-inducing effects, irreversible or irretrievable commitment of resources, relationship between short-term uses of the environment and maintenance and enhancement of long-term productivity, and unavoidable adverse environmental effects of the proposed action and alternatives under consideration.
- ▶ Chapter 5, “References and Organizations and Persons Consulted,” provides a bibliography of sources cited in the EIR/EIS and identifies the names and affiliations of persons who provided information used in preparing the document and provides information about public involvement.
- ▶ Chapter 6, “Report Preparers,” lists individuals who were involved in preparing this EIR/EIS.
- ▶ Chapter 7, “Index,” contains the NEPA-required index for easy reference of topics and issues.

## **Volumes II and III**

- ▶ Technical appendices contain the background information that supports the EIR/EIS. Volumes II and III can be found on the CD located in the back of Volume I.

## **1.9 DOCUMENTS RELIED ON IN PREPARATION OF THE ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL IMPACT STATEMENT**

The authors of this DEIR/DEIS 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 the overall planning effort. Some of these documents form the foundation of the technical analysis conducted in this DEIR/DEIS. These documents are as follows:

- ▶ *Draft Rio del Oro Specific Plan* (G. C. Wallace 2004, 2005, 2006)

- ▶ *Section 404 Individual Permit Application for Rio del Oro* (ECORP Consulting 2002)
- ▶ *Wetland Delineation for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2004)
- ▶ *Elliott Homes, Inc., Revised Hazardous Materials Technical Study for the Inactive Rancho Cordova Test Site and Associated Lands* (Environmental Resources Management 2003)
- ▶ *Master Drainage Study for Rio del Oro* (Wood Rodgers 2003a, 2005a)
- ▶ *Tree Inventory for Rio del Oro Project, Sacramento County, California* (Sierra Nevada Arborists 2003)
- ▶ *Listed Vernal Pool Branchiopods Wet Season Survey, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 2000a)
- ▶ *Listed Vernal Pool Branchiopods 2001 Wet Season Survey, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 2001)
- ▶ *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Sacramento County, CA* (ECORP Consulting 2003a, 2003b)
- ▶ *Elderberry Survey—Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 2000b)
- ▶ *Jurisdictional Delineation, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 1999)
- ▶ *Cultural Resource Assessment of the Proposed Rio del Oro Project Area, Sacramento County, California* (Peak & Associates 1999)
- ▶ *Historic Buildings and Structures Inventory, Douglas Missile Test Facility, Rio del Oro Specific Plan Project* (EDAW 2005a)
- ▶ *Determination of Eligibility and Effect for the Proposed Rio del Oro Project Area, City of Rancho Cordova, Sacramento, County, California* (Peak & Associates 2005)
- ▶ *Transportation Analysis for Rio del Oro Development* (Fehr & Peers 2002)
- ▶ *Supplemental Transportation Analysis for Rio del Oro Development* (Fehr & Peers 2003)
- ▶ *Traffic and Transportation Analysis for Rio del Oro Development* (Fehr & Peers 2005)
- ▶ *Draft Rio del Oro Plan Area Water Supply Master Plan, Rancho Cordova, California* (Wood Rodgers 2003b)
- ▶ *Conceptual Sewer Study for Rio del Oro* (Wood Rodgers 2003c, 2003d)
- ▶ *Sewer Master Plan for Rio del Oro, City of Rancho Cordova, California* (Wood Rodgers 2005b)
- ▶ *Wetland Delineation for Rio del Oro* (ECORP Consulting 2004)
- ▶ *Rio del Oro Plan Area Water Supply Master Plan, Draft, Volume 1* (Wood Rodgers 2004)
- ▶ *Rio del Oro Habitat Assessment* (EDAW 2005b)
- ▶ *Rio del Oro Water Supply Assessment* (EDAW 2005c)

These documents are referenced and elements are discussed and summarized throughout this DEIR/DEIS. Copies of each of these documents, including a hard copy of Volumes II and III, are available from:

City of Rancho Cordova  
 2729 Prospect Park Drive  
 Rancho Cordova, CA 95670  
 Phone: (916) 942-0222  
 Fax: (916) 853-1691

## 1.10 STANDARD TERMINOLOGY, ACRONYMS, AND ABBREVIATIONS

### 1.10.1 STANDARD TERMINOLOGY

The following standard terminology to refer to elements of the projects are used in this DEIR/DEIS.

- ▶ **Specific plan** refers to the Rio del Oro Specific Plan.
- ▶ **Plan area** refers to the Rio del Oro Specific Plan area, also known as “project site.”
- ▶ **Project site** refers to the Rio del Oro project site or specific plan area.
- ▶ **Project** refers to the project as currently proposed, including the combined project site and the area upon which the related off-site improvements are to be located.
- ▶ **Off-site improvements** refers collectively to project elements located outside the identified 3,828-acre specific plan project site.

### 1.10.2 ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations are used in this DEIR/DEIS.

<b>Table 1-1 Acronyms and Other Abbreviations</b>	
Term	Definition
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADT	average daily traffic, average daily trips
ADWF	average dry-weather flow
AEP	annual exceedance probability
Aerojet / AJ	Aerojet General Corporation
AFB	Mather Field (formerly Mather Air Force Base)
AFY	acre-feet per year
AF/Ac/Yr	acre-feet per acre per year
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
APE	Area of Potential Effects
AQAP	Air Quality Attainment Plan
ARB	California Air Resources Board
ASTM	American Society for Testing and Materials
AT&T	AT&T Inc. (formerly SBC Communications)
ATCM	Airborne Toxics Control Measure
B	beneficial
B.P.	Before Present (technically, before 1950)
BA	biological assessment
BACT	best available control technology
BMP	best management practice
BO	biological opinion
BOD	biochemical oxygen demand
BP	Business Park
BRA	Baseline Risk Assessment
BRT	Bus Rapid Transit
°C	degrees Celsius
CAA	federal Clean Air Act
CAAA	federal Clean Air Act Amendments
CAAQS	California ambient air quality standards
CaCO <sub>3</sub>	calcium carbonate
Cal-Am	California-American Water Company
Cal/EPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
Canal	Folsom South Canal
CAO	Cleanup and Abatement Order
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCN	Cloud Condensation Nuclei
CCR	California Code of Regulations
CDC	California Department of Conservation
CDE	California Department of Education

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
CDMG	California Division of Mines and Geology
CEQ	U.S. Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
cfs	cubic feet per second
CHP	California Highway Patrol
City	City of Rancho Cordova
CIWMA	California Integrated Waste Management Act
CIWMB	California Integrated Waste Management Board
CLUP	Comprehensive Land Use Plan
CMP	Coordinated Monitoring Program
CMU	Commercial Mixed Use
CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
County	County of Sacramento
CPP	Cosumnes Power Plant
CRHR	California Register of Historical Resources
CRPD	Cordova Recreation and Park District
CSD-1	County Sanitation District No. 1
CTR	California Toxics Rule
CVP	U.S. Bureau of Reclamation Central Valley Project
CWA	Clean Water Act
DAC	Douglas Aircraft Company
dB	decibels
dbA	A-weighted decibels
dbh	diameter at breast height
DEIR	draft environmental impact report
DEIS	draft environmental impact statement
Delta	Sacramento-San Joaquin Delta

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
DERA	Sacramento County Department of Environmental Review and Assessment
DFG	California Department of Fish and Game
DHS	California Department of Health Services
DO	dissolved oxygen
DPROS	Sacramento County Department of Regional Parks, Recreation, and Open Space
DS	downstream
DTSC	California Department of Toxic Substances Control
du/ac	dwelling units per acre
DWR	California Department of Water Resources
E.E.S.	Engineering Evaluation Site
ECORP	ECORP Consulting, Inc.
EIR	environmental impact report
EIR/EIS	environmental impact report/environmental impact statement
EIS	environmental impact statement
EM	existing Morrison Creek
EMT	Emergency Medical Technician
EPA	U.S. Environmental Protection Agency
EPS	Economic Planning Systems
ERM	Environmental Resources Management
ES	Elementary School
ESA	federal Endangered Species Act
EZ	existing Zinfandel
FAA	Federal Aviation Administration
FAR	floor area ratio
FCUSD	Folsom Cordova Unified School District
FEIR	final environmental impact report
FEIS	final environmental impact statement
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
FR	Federal Register
FS	feasibility study
FTMS	Federal Test Method Standard
g	acceleration of gravity
GenCorp	GenCorp Realty Investments
GET	groundwater extraction and treatment
GHG	atmospheric greenhouse gases
GIS	geographic information system
gpm	gallons per minute
GPS	global positioning system
GSWC	Golden State Water Company
HABS	Historic American Buildings Survey
HAP	hazardous air pollutant
HCD	California Department of Housing and Community Development
HCM	Highway Capacity Manual
HCP	habitat conservation plan
HCS	Highway Capacity Software
HD	High Density Alternative
HDD	horizontal directional drilling
HDR	High Density Residential
HI	Heavy Industrial
HOV	High-Occupancy Vehicle
HS	High School
HSWA	Hazardous and Solid Waste Amendments
HUD	U.S. Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
Hz	Hertz (unit of measurement)
IM	Impact Minimization Alternative
in/hr	inches per hour
IOC	Initial Operational Capability
IRBM	Intermediate Range Ballistic Missile
IRCTS	Inactive Rancho Cordova Test Site

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
IS	Initial Study
ISC	Industrial Source Complex Model
ISEO	Imminent and Substantial Endangerment Order
ITE	Institute of Transportation Engineers
IWMP	Integrated Waste Management Plan
JPA	joint powers authority
kV	kilovolt
LAFCO	Local Agency Formation Commission
lb/in	pounds per inch
lb/sf	pounds per square foot
LDR	Low Density Residential
L <sub>dn</sub>	day-night average noise level
L <sub>eq</sub>	energy-equivalent noise level
LI	Light Industrial
LIM	Land Inventory and Monitoring
L <sub>max</sub>	maximum noise level (the maximum instantaneous noise level during a specific period)
L <sub>min</sub>	minimum noise level (the minimum instantaneous noise level during a specific period)
LMNS	Lower Morrison North Creek
LMSS	Lower Morrison South Creek
LOS	level of service
LRT	Light Rail Transit
LSW	Lower Sacramento Watershed
LTC	Local Town Center
LTS	less than significant
LTS(m)	less than significant with mitigation
m	magnitude
MACT	maximum available control technology
MAPA	Mather Airport Policy Area
Mather AFB	Mather Air Force Base (now Mather Field)
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
MDR	Medium Density Residential
MDC	McDonnell Douglas Corporation
MDO	Medium Density Overlay
mgd	million gallons per day
mg/L	milligrams per liter
mg/L-N	milligrams per liter of nitrate
mg/L-P	milligrams per liter of phosphorous
mL	milliliter
MLD	Most Likely Descendant
MMP	Mitigation Monitoring Plan
MMRP	Mitigation Monitoring and Reporting Plan
MP	Industrial Office Park
mph	miles per hour
MPN/100 ml	Most probable number per 100 milliliters
MRZ	mineral resource zone
MS	Middle School
MSDS	Material Safety Data Sheet
MTP 2025	Metropolitan Transportation Plan
MW	megawatt
MX	motocross
NA	not available, not applicable
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
ND	North Douglas Watershed
NEHRP	National Earthquake Hazards Reduction Program
NEHRPA	National Earthquake Hazards Reduction Program Act
NEPA	National Environmental Quality Act
NESHAP	National Emissions Standards for hazardous air pollutants
NF	No Federal Action Alternative
NFIP	National Flood Insurance Program
ng	nanograms
ng/L	nanograms per liter
NGSA	Northern Groundwater Study Area
NHPA	National Historic Preservation Act

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
NI	no impact
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO <sub>2</sub>	nitrogen dioxide
NOI	notice of intent
NOP	notice of preparation
NO <sub>x</sub>	oxides of nitrogen
NP	No Project Alternative
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	Noise Reduction Coefficient
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRPA	National Recreation and Park Association
NTU	Nephelometric turbidity unit
NWP	nationwide permit
O <sub>3</sub>	ozone
O&M	Operations and Maintenance
OAP	Ozone Attainment Plan
OEHHA	Office of Environmental Health hazard Assessment
OES	Office of Emergency Services
OMU	Office Mixed Use
OPR	Governor's Office of Planning and Research
OS	Open Space/Recreation
OS/P	Open Space/Public
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PAH	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	perchloroethylene
pc/mi/ln	passenger cars per mile per lane
PCD	Partial Consent Decree
perc	perchloroethylene

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
PG&E	Pacific Gas and Electric Company
PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 microns in diameter; fine particulate matter
PM <sub>10</sub>	particulate matter less than or equal to 10 microns in diameter; respirable particulate matter
PP	Proposed Project Alternative
ppm	parts per million
P/QP	Public/Quasi Public
PR	Private Recreation
PRG	Preliminary Remediation Goal
PS	potentially significant
psi	pounds per square inch
QU	Holocene-age surficial deposits
RAP	Remedial Action Plan
RAW	Removal Action Workplan
RCRA	Resource Conservation and Recovery Act
RD	Remediation Design
RHNP	Regional Housing Needs Plan
RI	remedial investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	record of decision
ROG	reactive organic gas
ROW	right-of-way
RT	Sacramento Regional Transit
RTC	Regional Town Center
RWDS	Reports of Waste Discharge
RWQCB	Regional Water Quality Control Board
RWSP	Eastern County Replacement Water Supply Project
S	significant
SACIGSM	Sacramento County Integrated Groundwater and Surface Water Model
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SBC	SBC Communications (now AT&T Inc.)
SCH	State Clearinghouse

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
SCS	U.S. Soil Conservation Service (now Natural Resources Conservation Service)
SCSD	Sacramento County Sheriff's Department
SCWA	Sacramento County Water Agency
SDWA	Safe Drinking Water Act
SEL	sound exposure level
SENEL	single-event noise exposure level
sf	square feet
SF	Single Family Residential
SFID	Rancho Cordova School Facility Improvement District
SFPD	School Facilities Planning Division
SGSA	Southern Groundwater Study Area
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	California Surface Mining and Reclamation Act
SMFD	Sacramento Metropolitan Fire District
SMUD	Sacramento Municipal Utility District
SO <sub>2</sub>	sulfur dioxide
sp.	species (singular)
SPA	Specific Plan Area
spp.	species (plural)
SQIP	Stormwater Quality Improvement Plan
SR	State Route
SRCS	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSCHCP	South Sacramento County Habitat Conservation Plan
ssp.	subspecies
State Parks	California Department of Parks and Recreation
STC	Sound Transmission Class
SU	significant and unavoidable
SU(m)	significant and unavoidable with mitigation
SVAB	Sacramento Valley Air Basin
SVRA	State Vehicular Recreation Area
SWP	State Water Project
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board (California)

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
t	mine and dredge tailings
T1	Laguna Formation
TAC	toxic air contaminant
TAF	thousand acre-feet
TAZ	traffic analysis zones
TCE	trichloroethene
TCR	Transportation Concept Report
TDF	travel demand forecasting
Teichert	Teichert Aggregates, Inc.
TMDL	Total Maximum Daily Load
tpd	tons per day
TPY	tons per year
U.S. 50	U.S. Highway 50
UBC	Uniform Building Code
UCMP	University of California Museum of Paleontology
URBEMIS	Urban Emissions Model
US	upstream watershed
USACE	U.S. Army Corps of Engineers
USB	Urban Services Boundary
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
V/C	volume-to-capacity
VC	Village Commercial
VELB	valley elderberry longhorn beetle
VMT	vehicle miles traveled
VOC	volatile organic compound
WDR	waste discharge requirement
WFA	Water Forum Agreement
WGOU	Western Groundwater Operable Unit
WRIME	Water Resources and Information Management Engineering, Inc.

**Table 1-1  
Acronyms and Other Abbreviations**

Term	Definition
WSA	Water Supply Assessment
WTP	Vineyard Water Treatment Plant
ZDS	Zinfandel Downstream
Zone 40 WSMP	Zone 40 Water Supply Master Plan
ZUS	Zinfandel Upstream Watershed

## 2 ALTERNATIVES

### 2.1 INTRODUCTION

This chapter describes the proposed project and a range of reasonable alternatives to the proposed project/action consistent with the requirements of California Code of Regulations (CCR) Section 15126.6 and 40 Code of Federal Regulations (CFR) 1502.14.

The five alternatives evaluated at an equal level of detail in this draft document, known as a draft environmental impact report/draft environmental impact statement (DEIR/DEIS), are as follows:

- ▶ Proposed Project (Applicants' Preferred Alternative)
- ▶ High Density (Increased Densities Consistent with Sacramento Area Council of Governments [SACOG] Blueprint)
- ▶ Impact Minimization
- ▶ No Federal Action Alternative
- ▶ No Project/No Action Alternative

These alternatives were developed by the City of Rancho Cordova (City) and the U.S. Army Corps of Engineers (USACE), Sacramento District, after review of scoping comments received on the notice of preparation (NOP) and notice of intent (NOI) and voiced at scoping meetings. The alternatives are based on the project purpose, alternatives screening criteria (described below), and results of the wetlands permitting alternatives analysis. As requested by USACE, this document also evaluates a No USACE Permit Alternative. These alternatives represent a reasonable range of alternatives to the proposed project, consistent with California Environmental Quality Act (CEQA) and NEPA requirements. The proposed project and alternatives under consideration (with the exception of the No Project/No Action Alternative required by CEQA and NEPA) have each been formulated to feasibly accomplish most of the basic objectives of the project as discussed in Chapter 1, "Introduction and Statement of Purpose and Need," of this DEIR/DEIS, and could avoid or substantially lessen one or more of the significant effects.

A summary comparison of these alternatives, as well as identification of the environmentally superior alternative, is provided in Section 2.12 of this chapter.

### 2.2 CEQA/NEPA REQUIREMENTS FOR EVALUATION OF ALTERNATIVES

#### 2.2.1 CEQA REQUIREMENTS

##### FOCUS OF THE EIR ALTERNATIVES ANALYSIS

The guiding principles for the selection of alternatives for analysis in an EIR are provided by the State CEQA Guidelines (CCR Section 15126.6). Section 15126.6 states that the alternatives analysis must:

- ▶ describe a range of reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project but would substantially lessen or avoid any of the significant effects of the project;

- ▶ focus on alternatives capable of avoiding or substantially lessening any of the significant environmental impacts of the proposed project, even if they may be more costly or could otherwise impede some of the project’s objectives; and
- ▶ evaluate the comparative merits of the alternatives.

The focus and definition of alternatives evaluated in this DEIR/DEIS are governed by the “rule of reason” in accordance with Section 15126.6 of the State CEQA Guidelines. That is, the range of alternatives presented in the DEIR/DEIS is limited to those that would permit a reasoned choice by the City and USACE decision makers.

In addition to the guiding principles for selection of alternatives set forth above, the State CEQA Guidelines require that an EIR evaluate a “No Project Alternative,” identify alternatives that were initially considered for further evaluation but then rejected, and identify the “environmentally superior alternative.” This DEIR/DEIS describes and evaluates a No Project Alternative (Section 2.7) to provide the decision makers and the public with an overview of what could reasonably be expected to occur if the proposed Rio del Oro project were not approved and implemented. This chapter also describes various alternatives that were considered, but eliminated from further consideration (No Federal Action Alternative, Off-site Alternatives, Reduced Preserve Alternative, Increased Preserve/No Regional Town Center Alternative, and Traffic Impact Avoidance Alternative) (see Sections 2.6 and 2.8–2.11 below for further discussion).

## **SCREENING CRITERIA**

Consistent with the requirements of CEQA, the City used the CEQA project objectives identified in Chapter 1, “Introduction and Statement of Purpose and Need,” as criteria to screen the alternatives that should be considered in this DEIR/DEIS and to determine whether the alternatives would avoid or substantially lessen any of the significant environmental impacts of the project.

## **2.2.2 NEPA REQUIREMENTS**

### **FOCUS OF THE EIS ALTERNATIVES ANALYSIS**

- ▶ The NEPA Council on Environmental Quality (CEQ) Regulations (40 CFR 15012.14) require that an EIS include:
  - ▶ an objective evaluation of reasonable alternatives;
  - ▶ identification of the alternatives considered but eliminated from detailed study, along with a brief discussion of the reasons that these alternatives were eliminated;
  - ▶ information that would allow reviewers to evaluate the comparative merits of the proposed action (i.e., proposed project) and alternatives;
  - ▶ consideration of the No Action Alternative;
  - ▶ identification of the agency’s preferred alternative, if any; and
  - ▶ appropriate mitigation measures not already included in the proposed action or alternatives.

Additionally, USACE NEPA regulations require identification and consideration of a No USACE permit alternative, which is referred to in the DEIR/DEIS as the No Federal Action Alternative.

Alternatives to the proposed project that were considered in the evaluation are described below. Consideration of the other NEPA requirements is provided in Chapters 3 and 4 of this DEIR/DEIS.

Unlike CEQA, which permits the evaluation of alternatives to occur in less detail than is provided for the proposed project, NEPA requires the analysis of alternatives to occur at a substantially similar level of detail as that devoted to the proposed action. The NEPA Regulations (40 CFR 1502.14) require agencies to rigorously explore and objectively evaluate all reasonable alternatives and to devote substantial treatment to each alternative considered, including the proposed project.

## **SCREENING CRITERIA**

The following screening criteria are in compliance with the USACE Section 404(b)(1) Guidelines, which are the substantive criteria used by USACE in evaluating discharges of fill material into waters of the United States under Section 404 of the Clean Water Act. The guidelines require that the following four criteria be satisfied for USACE to make a decision that a proposed discharge is in compliance:

- ▶ The discharge must be the least environmentally damaging practicable alternative.
- ▶ The discharge must not violate any water quality standard or toxic effluent standard, or jeopardize the continued existence of a threatened or endangered species.
- ▶ The discharge must not result in a significant degradation of the waters of the United States.
- ▶ Unavoidable impacts on the aquatic ecosystem must be mitigated within the context of NEPA.

Before USACE can issue a permit, it must find that the requirements of the Section 404(b)(1) Guidelines have been satisfied. The key criterion and the focus of the alternatives analysis is the requirement that the discharge be the least environmentally damaging, practicable alternative. USACE considers practicable alternatives to include, but not to be limited to:

- ▶ on-site activities that do not include a discharge into waters of the United States or ocean waters;
- ▶ discharges of dredged or fill material at other locations in waters of the United States or ocean waters;
- ▶ areas that are not presently owned by the applicant that could be reasonably obtained, utilized, expanded, or managed to fulfill the basic purpose of the proposed activity (after considering cost, existing technology, and logistics); and
- ▶ a project location that does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., that is not water dependent). Practicable alternatives that do not involve special aquatic sites are presumed to be available unless clearly demonstrated otherwise. Where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge that do not involve a discharge into a special aquatic site are presumed to have less adverse impacts on the aquatic ecosystem, unless clearly demonstrated.

The key provisions in the language are “practicability” and “overall project purpose.” An alternative is considered to be practicable if it is available to the applicant and capable of being accomplished by the applicant after consideration of costs, existing technology, and logistics, in light of the overall project purpose. USACE has determined that the overall purpose of the project is to provide a large-scale mixed-use community within Sacramento County. If a practicable alternative is identified that would have less adverse impacts on the aquatic ecosystem and would not have other significant adverse environmental consequences, then USACE would be unable to issue a permit for the project.

## **2.3 PROPOSED PROJECT/ACTION**

### **2.3.1 SUMMARY**

This section describes the proposed project. The proposed project has been formulated to achieve the project purpose, objectives, and needs of the project, as discussed in Chapter 1, “Introduction and Statement of Purpose and Need,” of this DEIR/DEIS.

Elliott Homes and GenCorp Realty Investments (GenCorp), the project applicant(s), are seeking adoption by the City of the proposed *Rio del Oro Specific Plan* (specific plan), hereinafter referred to as the “Rio del Oro project” or the “proposed project.” The Rio del Oro project would be a mixed-use development on approximately 3,828 acres in Rancho Cordova. Elliott Homes is seeking specific development entitlements (e.g., tentative subdivision maps) as part of the proposed project. GenCorp is seeking overall development entitlements, but has not proposed specific development entitlements necessary for immediate or short-term development as part of this proposal. A copy of the draft Rio del Oro Specific Plan is available for review at the City of Rancho Cordova offices located at 2729 Prospect Park Drive, Rancho Cordova, CA 95670. Both Elliott Homes and GenCorp are also seeking authorization from USACE to place dredged or fill material into waters of the United States.

### **2.3.2 REGIONAL LOCATION**

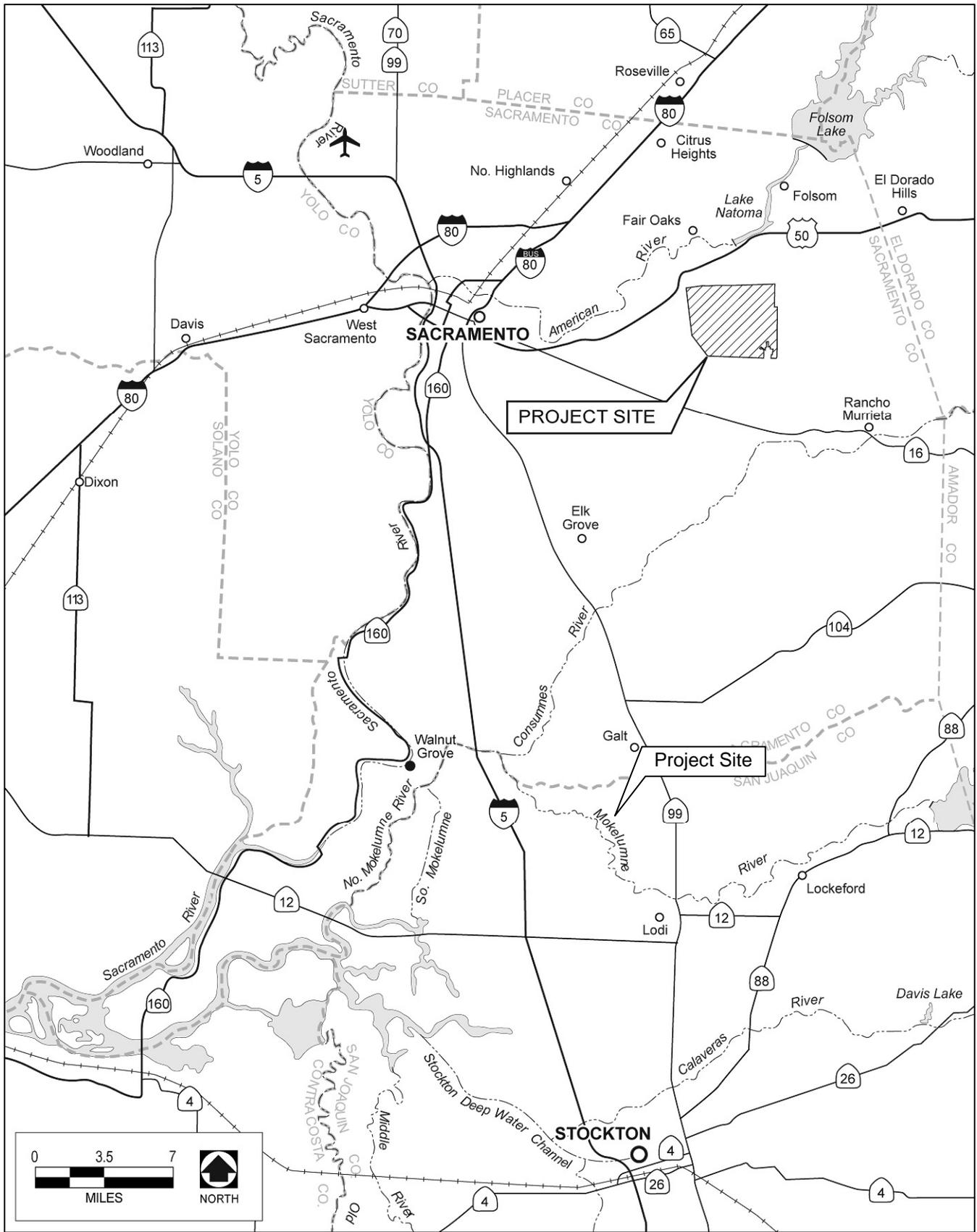
The project site is located in eastern Sacramento County, south of U.S. Highway 50 (U.S. 50), within the city limits of the City of Rancho Cordova (Exhibits 2-1, 2-2, and 2-3). The property is located south of White Rock Road, north of Douglas Road, and east of Sunrise Boulevard.

Rancho Cordova lies within the Sacramento Valley, a nearly flat alluvial plain that extends almost 180 miles from the Sacramento–San Joaquin Delta on the south to Redding on the north, and approximately 50 miles from the Sierra Nevada foothills on the east to the Coast Range on the west. The Sacramento Valley is an asymmetric structural trough that is filled locally up to 5 miles deep with sediment that has been deposited on a nearly continuous basis since the late Jurassic period (approximately 160 million years ago). Climate in the Sacramento Valley is characterized by warm, dry summers with an almost complete absence of rain, and mild winters with relatively light rains.

### **2.3.3 PROJECT SITE AND VICINITY**

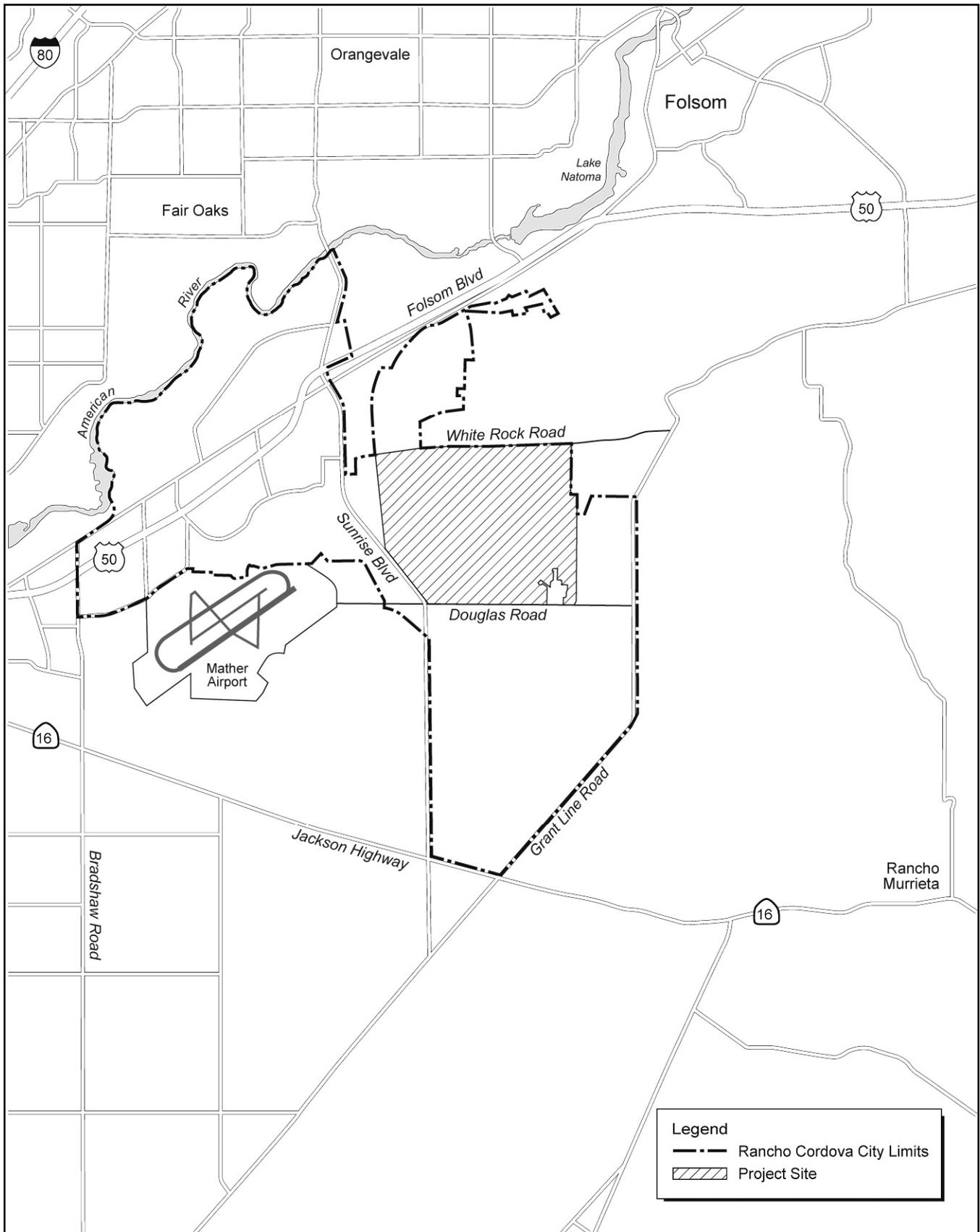
A large portion of the project site is currently being used as pastureland for cattle grazing. Surrounding land uses include facilities owned by Aerojet General Corporation (Aerojet) and associated buffer lands to the north; aggregate mining to the northeast; industrial development (the Security Park) to the southeast; industrial development along the Sunrise Boulevard corridor to the west; Mather Airport farther west; and new residential housing and agricultural land uses to the south. The County of Sacramento (County) Landfill is located southeast, and the Sunrise Douglas Community Plan/SunRidge Specific Plan (a developing mixed-use project) area is located south of the Rio del Oro project site.

Access to the Rio del Oro project site would be provided via the proposed Rio del Oro Parkway, which would be accessible from Sunrise Boulevard, and via Rancho Cordova Parkway and Americanos Boulevard, both of which would be accessible from Douglas and White Rock Roads (Exhibit 2-4).



Source: California State Automobile Association, Bay and Mountain Section 1999

**Regional Location**

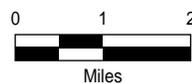


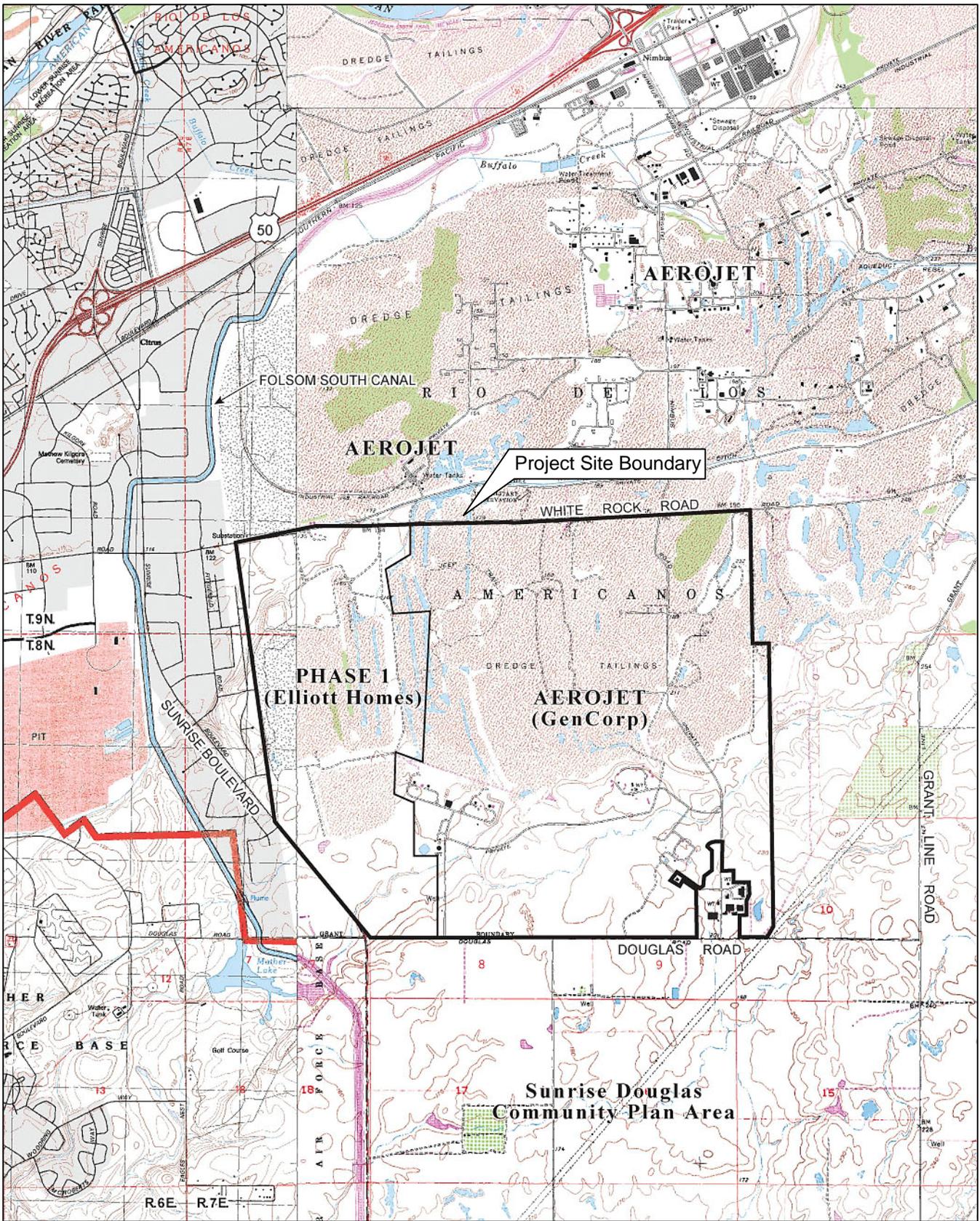
Source: USGS Citrus Heights/Carmichael Quads 1992, USGS Folsom/Buffalo Creek Quads 1980

## Local Project Setting

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 3T089.01 08/05

EXHIBIT 2-2



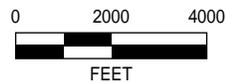


Source: USGS Citrus Heights/Carmichael Quads 1992, USGS Folsom/Bufalo Creek Quads 1980

### Project Vicinity Map

EXHIBIT 2-3

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 3T089.01 06/05



## **2.3.4 DESCRIPTION OF THE PROPOSED PROJECT/ACTION (PROPOSED PROJECT ALTERNATIVE)**

### **PROGRAM LEVEL AND PROJECT LEVEL CHARACTERISTICS**

This section describes the requested entitlements, project characteristics, and components associated with a project level analysis of the proposed development Phase 1. The analysis of Phase 1 and of all biological resources is at a project level of detail. This section further provides a “big picture” description of the entire proposed Rio del Oro project area at a program level of analysis. It should be noted that while the proposed development Phase 1 and the development proposed in and adjacent to jurisdictional wetlands are components of the Rio del Oro project, these are the only portions of the plan area that are analyzed at a project level of detail, because the Phase 1 area is proposed for development following project approval.

This section refers to the “project” as the “proposed project” since it encompasses the Proposed Project Alternative. When referring to the other alternatives under consideration, the text refers to the Rio del Oro project as “project.”

### **PROGRAM LEVEL (RIO DEL ORO SPECIFIC PLAN)**

#### **Requested Entitlements**

The following entitlements are requested from USACE and the City for the proposed project. Specific-plan development entitlements for development Phase 1 are listed in the “Project Level (Phase 1)” discussion below. Additional approvals and authorizations are listed in Chapter 1, “Introduction and Statement of Purpose and Need.”

#### ***U.S. Army Corps of Engineers***

The proposed action represents a federal action because it would require federal permits and authorizations for one or more of the following activities: issuance of a Section 404 Clean Water Act permit for discharges into waters of the United States; and issuance of a biological opinion and incidental-take statement pursuant to Section 7 of the ESA for potential take of endangered or threatened species. For purposes of evaluating NEPA project level biological impacts, a figure showing a draft lotting pattern only for areas within 250 feet of wetlands under USACE’s jurisdiction is attached as Exhibit 2-5. However, it should be noted that this lotting pattern is not final and is not being used by the City for any project-related entitlements.

#### ***City of Rancho Cordova***

Adoption of the proposed project, as well as alternatives under consideration, including development Phase 1, requires approval of the following City entitlements:

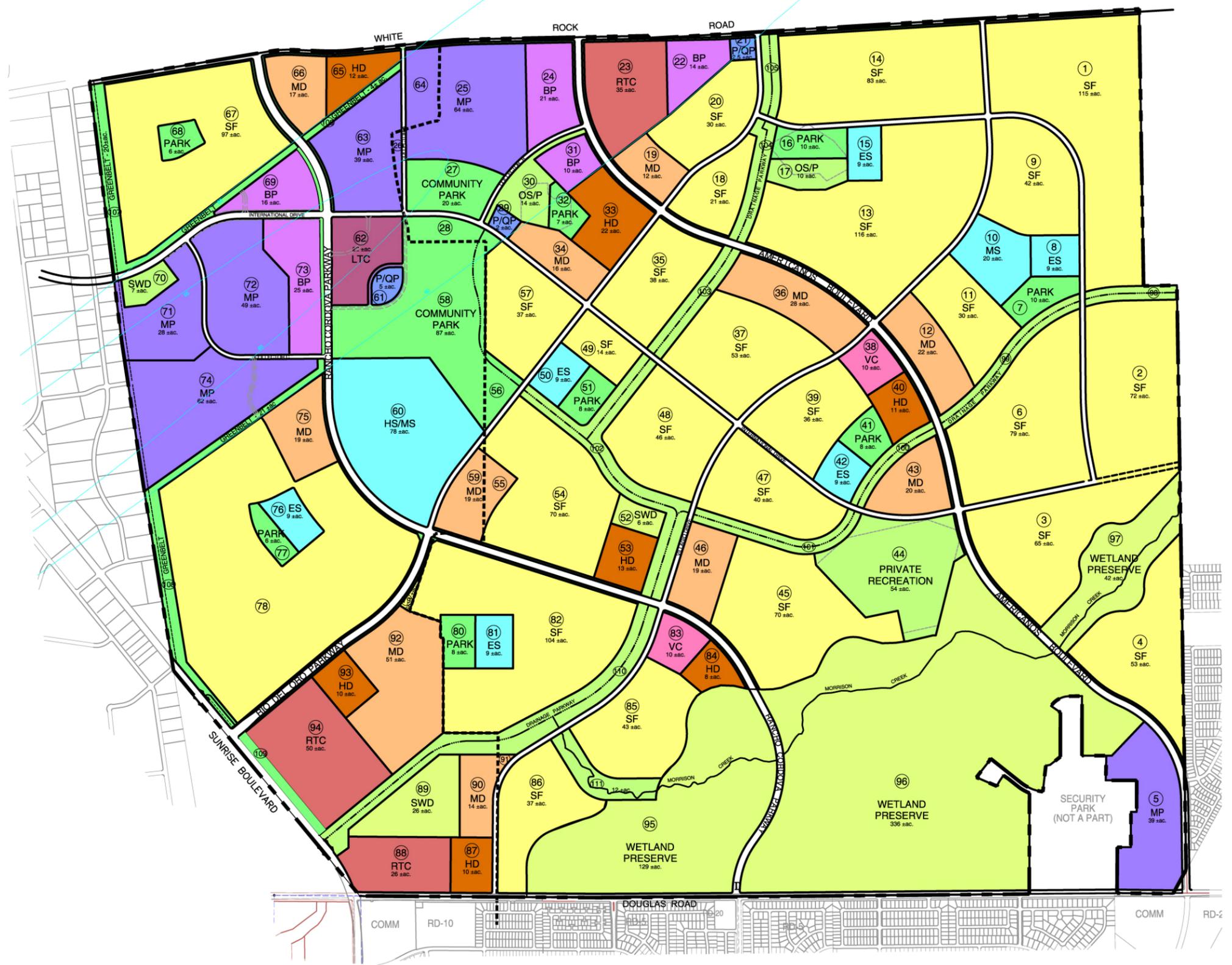
- ▶ Adoption of the Rio del Oro Specific Plan,
- ▶ Adoption of a Public Facilities Financing Plan,
- ▶ Adoption of a Public Facilities Infrastructure/Phasing Plan,
- ▶ Approval of a Tentative subdivision maps (Phase 1 only), and
- ▶ Approval of a Development agreement between the City and project applicant(s).

Future City entitlement approvals for development Phases 2–5 may include, but are not limited to, the following:

- ▶ use permits,
- ▶ tentative subdivision maps,
- ▶ lot line adjustments,

### LAND USE SUMMARY

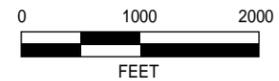
LAND USE	ACRES	DENSITY RANGE	FIXED COUNT	UNITS	UNIT %
SF SINGLE FAMILY RESIDENTIAL	1,597	2.1 TO 6.0	5 DU/AC	7,985	69%
MD MEDIUM DENSITY RESIDENTIAL	237	6.1 TO 18.0	8 DU/AC	1,896	16%
HD HIGH DENSITY RESIDENTIAL	86	18.1 TO 40.0	20 DU/AC	1,720	15%
VC VILLAGE COMMERCIAL	20				
LTC LOCAL TOWN CENTER	22				
RTC REGIONAL TOWN CENTER	111				
BP BUSINESS PARK	86				
MP INDUSTRIAL PARK	282				
P/QP PUBLIC / QUASI PUBLIC	9.5				
MS/HS SCHOOL CAMPUS	78				
MS MIDDLE SCHOOL	20				
ES ELEMENTARY SCHOOL	54				
CP COMMUNITY PARK	107				
P NEIGHBORHOOD PARKS	63				
SWD STORM WATER DETENTION	39				
WETLAND PRESERVE	507				
DRAINAGE PARKWAY	143				
PRIVATE RECREATION	54				
OS OPEN SPACE	12				
OS/P OPEN SPACE/ PRESERVE	24				
LANDSCAPE CORRIDORS	44				
GB GREENBELTS	50				
MAJOR ROADS	183				
<b>TOTALS:</b>	<b>3828.5</b>			<b>11,601</b>	<b>100%</b>

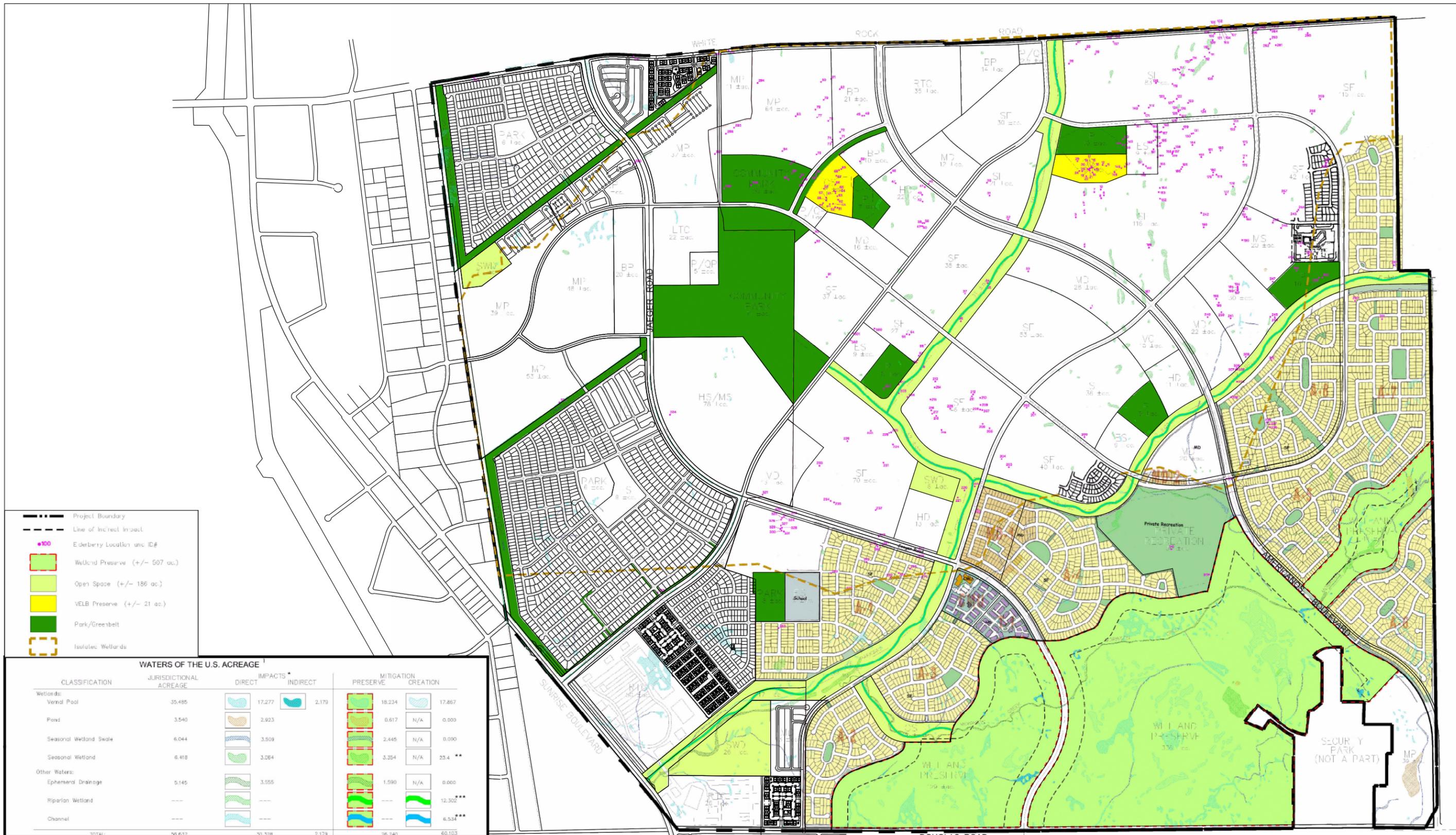


Source: G.C. Wallace 2006

### Proposed Project Alternative Land Use Plan

EXHIBIT 2-4

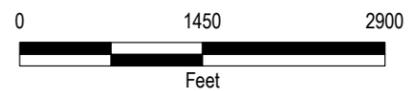




Source: ECORP 2005

Draft Lotting Plan for NEPA Project-Level Review

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 X 3T089.01 05/06



- ▶ Engineering Improvement Plans,
- ▶ infrastructure and roadway improvement projects,
- ▶ design review, and
- ▶ Development Agreement between the City and future project applicant(s).

Each of these required entitlements and approvals is described in turn below.

- ▶ **Rio del Oro Specific Plan Adoption.** The specific plan is intended to provide a comprehensive land use, policy, and regulatory document to govern all future development in the 3,828-acre plan area, which contains the same boundary as the project site and is hereinafter referred to as the “project site.” The goal of the specific plan is to establish a development framework for land use, resource protection, circulation, public utilities and services, design, and implementation. Development of the specific plan (i.e., the proposed project under the CEQA process) and the subsequent entitlement process provides for a sequence of community input and government review to ensure that development occurs in a logical, consistent, and timely manner.

Specific plans are an implementation mechanism for new-growth areas authorized, but not mandated, by California statute (California Government Code Section 65451 et seq.). The content of a specific plan is defined in Government Code Section 64541(a), which specifies the following in detail:

- the distribution, location, and extent of the uses of the land, including open space, within the area covered by the plan;
- the proposed distribution, location, extent, and intensity of major components of public and private transportation, sewage, water drainage, solid-waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan;
- standards and criteria by which development would proceed, and standards for the conservation, development, and utilization of natural resources, where applicable; and
- a program of implementation measures including regulations, programs, public-works projects, and financing measures necessary to carry out the above-listed criteria.

Under state law, the specific plan implements and must be consistent with the goals, policies, and objectives of the approving local agency’s general plan. Here, the project is intended to be consistent with the *Rancho Cordova General Plan* (City General Plan), as adopted on June 26, 2006. All subsequent entitlements and approvals relating to land or infrastructure in the plan area (i.e., project site), including but not limited to subdivisions, public-works projects, rezones, and conditional use permits, are required to be consistent with the specific plan if the specific plan is to be used as the entitling document. Once the specific plan is adopted, the maximum extent of development at the project site will have been determined and cannot be exceeded. However, development intensity and residential density within individual communities in the specific plan area may be transferred from one development to another, with City approval, provided that the maximum limits set forth in the specific plan are not exceeded.

- ▶ **Public Facilities Financing Plan.** A Public Facilities Financing Plan would be prepared and included as part of the Rio del Oro Specific Plan, and would be adopted by the City Council before the approval of any tentative map within the specific plan area, including development Phase 1. The Financing Plan would define the specific mechanisms required to fund capital costs of all infrastructure necessary as a result of specific plan buildout. The Financing Plan would define funding for the maintenance of new infrastructure and public services needed by the future residents and business locating within the Rio del Oro project site.
- ▶ **Public Facilities Infrastructure/Phasing Plan.** A Public Facilities Infrastructure/Phasing Plan would be adopted by the City Council before approval of any tentative map within the specific plan area, including

development Phase 1. The plan would provide specific details regarding the phasing, sizing, alignment and location, cost estimates, and construction timing requirements for each phase of the Rio del Oro project site.

- **Development Agreement.** The project applicant(s) intend to enter into a Development Agreement with the City pursuant to Government Code Section 65864 et seq. at the time of specific plan adoption. The agreement would set forth many, if not all, of the applicants’ obligations to the City and other public agencies with regard to the project, including but not limited to construction, maintenance, and financial responsibilities. The agreement would also set forth the City’s other project obligations, including but not limited to processing of subsequent entitlement applications, formation of financing mechanisms (including Mello-Roos districts), and the vesting of development entitlements. Pursuant to applicable Government Code provisions, public hearings at both the City Planning Commission and City Council would be held on the proposed Development Agreement before the City Council takes any action.

### Proposed Rio del Oro Land Uses

As described above, the proposed project (specific plan) consists of a 1,100-acre parcel (development Phase 1) and a 2,728-acre parcel (development Phases 2–5) in Rancho Cordova. The proposed project would include a range of housing types, employment centers, and recreation opportunities, as well as support services such as roadway improvements, support infrastructure, and utilities. Land uses described below and shown in Table 2-1 and Exhibit 2-4 include those proposed for all five phases of the proposed project.

Land Use	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Total
Single-Family Residential	290	252	324	386	345	1,597
Medium-Density Residential	113	56	26	22	20	237
High-Density Residential	32	22	21	-	11	86
Village Commercial	-	-	10	-	10	20
Shopping Center (LTC RTC)	98	35	-	-	-	133
Business Park	41	45	-	-	-	86
Industrial Park	188	55	-	-	39	282
Public/Quasi Public	5	4.5	-	-	-	9.5
High School/Middle School	78	-	-	-	-	78
Middle School	-	-	-	20	-	20
Elementary Schools	9	9	9	18	9	54
Community Parks	71	36	-	-	-	107
Neighborhood Parks	12	15	8	20	8	63
Stormwater Detention	33	-	6	-	-	39
Wetland Preserve	-	-	129	-	378	507
Drainage Parkway	17	60	41	18	19	155
Private Recreation	-	-	-	-	54	54
Open Space Preserve	-	14	-	10	-	24
Greenbelts	50	-	-	-	-	50
Major Roads with Landscaping	78	36	37	27	49	227
<b>Total</b>	<b>1,115</b>	<b>639.5</b>	<b>611</b>	<b>521</b>	<b>942</b>	<b>3,828.5</b>
Source: G. C. Wallace 2005						

Buildout of the proposed project would be split into five development phases, is anticipated to occur over a 25- to 30-year period, and would include the elements described below.

### ***Residential***

The proposed project provides for the construction of approximately 11,601 dwelling units in three residential land use classifications on 1,920 acres. The proposed densities are as follows:

- ▶ Single-Family Residential, with a permitted density range of 2.1–6.0 dwelling units per acre (du/ac) and a proposed density of 5 du/ac;
- ▶ Medium-Density Residential, with a permitted density range of 6.1–18.0 du/ac and a proposed density of 8 du/ac; and
- ▶ High-Density Residential, with a permitted density range of 18.1–40 du/ac and a proposed density of 20 du/ac. A total of 1,920 acres are proposed for residential development.

### ***Commercial/Industrial***

The proposed project includes the commercial land use classifications of Village Commercial, Local Town Center, and Regional Town Center (shopping centers); Business Park; and Industrial Park (Table 2-1). Two Village Commercial areas are proposed along Rancho Cordova Parkway and Americanos Boulevard for a total of 20 acres. Shopping Centers would occupy 133 acres of the project site. Business Parks totaling 86 acres are proposed along Rancho Cordova Parkway and Americanos Boulevard. In addition, 282 acres of Industrial Park are proposed.

### ***Parks/Recreation/Public***

The proposed project includes development of a 107-acre community park and various neighborhood parks totaling 63 acres. There would also be 54 acres of Private Recreation land uses, 9.5 acres of Public/Quasi Public Use, 44 acres of Landscape Corridor, and 50 acres of Greenbelt land uses. It is possible that, in addition to these recreational facilities, the project may ultimately include an outdoor sports facility/adult sports park. Whether such an outdoor sports facility/adult sports park will actually be built is uncertain, however, as the proposal remained rather amorphous at the time this DEIR/DEIS was released for public review, and had not been integrated into the draft Specific Plan. If constructed, the sports facility would be located on 40 acres currently proposed for Industrial Park land uses adjacent to and south of White Rock Road, north of the proposed Community Park. Uses at this facility could include a water slide park, softball complex, soccer fields, and/or a stadium/amphitheatre with capacity to accommodate approximately 3,000 people. Potential impacts associated with the sports facility are evaluated in this DEIR/DEIS at a programmatic level only. If the City Council chooses to consider the actual approval of the facility, additional, project-level CEQA analysis, building on the programmatic analysis found herein, will be necessary.

### ***Open Space Preserve***

A total of 329 elderberry shrubs, the host plant for the valley elderberry longhorn beetle (federally listed as endangered), were identified on the project site during surveys conducted by Gibson & Skordal (2000). Two elderberry preserve areas have been designated on the project site in areas with the greatest concentration of shrubs. The 10-acre and 14-acre conservation areas would preserve a total of 38 existing elderberry shrubs. Approximately 291 elderberry shrubs outside of these preserve areas would be transplanted before grading. All transplanted shrubs would be placed in the preserve areas. Approximately 2,088 elderberry seedlings and approximately 3,988 associated native plants would be planted within these conservation areas and within the proposed drainage corridors.

## ***Drainages/Wetlands***

The proposed project includes the creation of 155 acres of drainage parkways. A total of 39 acres of stormwater detention basins would be created in three separate locations: one in the southern portion and one in the northern portion of the Phase 1 development area, and a third basin in the central portion of development Phase 3. A 507-acre wetland preserve area is also proposed in the southern portion of the project site.

### **Drainage Conveyance**

Project implementation would allow reclamation and development of nearly 3,300 acres of land that has been previously developed (i.e., mined or otherwise extensively disturbed). The development effort would require that drainage watercourses be provided to effectively drain the site, control flooding, and provide recreation and water quality benefits. Exhibit 2-6a shows the extent to which drainage features such as parkways, detention basins, and water quality treatment facilities would be integrated into the ultimate project buildout. A network of conveyance pipes, inlets, manholes, and regulating structures would deliver runoff to the aforementioned system components (Exhibit 2-6a). Potential off-site drainage improvements are shown in Exhibit 2-6b.

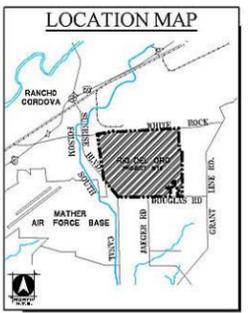
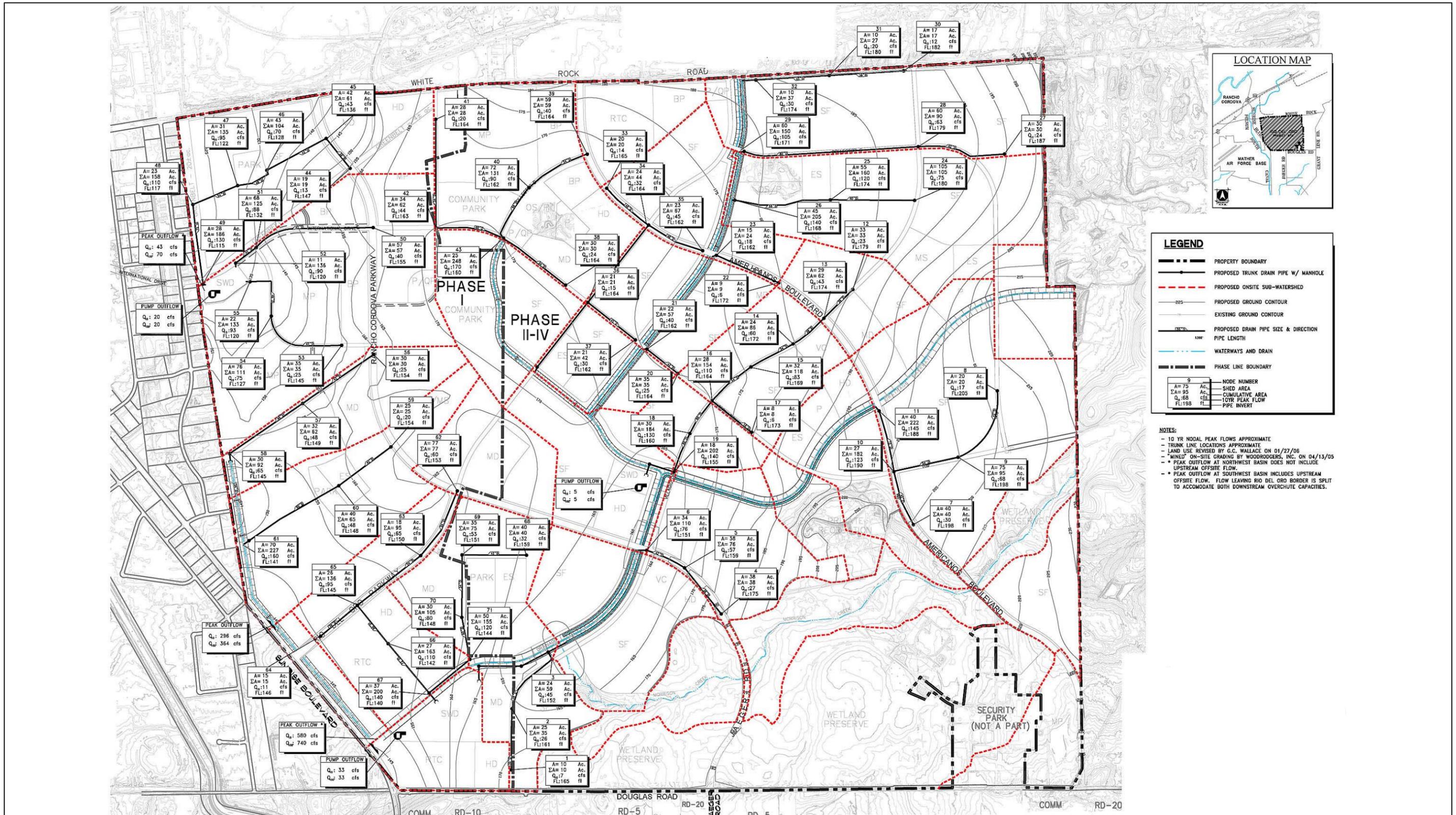
The California Department of Water Resources (DWR) and County Department of Water Resources have indicated that the Folsom South Canal drainage crossings, as well as their upstream drainage conveyance systems (extending east from the canal crossings to the Rio del Oro project site boundary), represent the basis for the total allowed discharge from the project site. The Folsom South Canal is not a drainage system; it is designed to convey American River water east and south for irrigation and domestic uses. There are four locations along the Folsom South Canal where runoff attributable to the project site crosses into downstream conveyances. The majority of runoff leaving the project site is conveyed in culverts, channels, and enclosed storm drain systems. Runoff is conveyed on-site via culverts, overland flow areas, creeks, and streams.

There are four watersheds upstream of the project site that contribute runoff. Three originate outside of the project site: water from the southwest and southeast watersheds is conveyed primarily overland, while water from the northwest watershed is conveyed through pipe culverts that lie beneath White Rock Road. The fourth watershed is the largest; it includes the entire mainstem Morrison Creek drainage extending east beyond Grant Line Road. This watershed originates on-site and flows south from the project area through roadway crossings of Douglas Boulevard. All four watersheds consist of gently rolling terrain that generally drains toward the southwest with slopes ranging from 1% to 7%. Ground elevations range from 130 feet above mean sea level in the northwest to 220 feet in the southeast. All but one of the watersheds contain extensive tailings disposal mounds from historical mining activities, which were formed into tall berms that were used to hold water to float the dredger. These berms continue to impound and trap rainfall, thereby decreasing the runoff yield from the watersheds during all but the most extreme flood conditions.

Downstream of the project site, the two watersheds in the northwest and southwest flow into areas of industrial and business park development where roadways, utilities, and drainage conveyance systems are present. The two watersheds from the northeast and southeast portions of the project site flow into undeveloped grazing lands. Although each of these watersheds crosses the Folsom South Canal at different locations, they all ultimately drain to Morrison Creek southwest of Mather Airport.

There are several intermittent drainage watercourses on-site; however, the majority of overland watercourses that may have been present historically have disappeared as a result of mining activity. In addition, small networks of drainage ditches and small-diameter roadway culverts exist in areas near the industrial and testing facilities constructed by Aerojet.

The project site lies within the greater Morrison Creek watershed. While Morrison Creek has not been previously studied by the Federal Emergency Management Agency (FEMA) for purposes of drafting a Flood Insurance Study, it has been studied by DWR under its Awareness Flood Mapping Program. The area along Morrison Creek



**LEGEND**

- PROPERTY BOUNDARY
- PROPOSED TRUNK DRAIN PIPE W/ MANHOLE
- - - - - PROPOSED ONSITE SUB-WATERSHED
- Proposed GROUND CONTOUR
- Existing GROUND CONTOUR
- Proposed DRAIN PIPE SIZE & DIRECTION
- PIPE LENGTH
- WATERWAYS AND DRAIN
- PHASE LINE BOUNDARY

9	Node Number
A=75 Ac.	Shed Area
ΣA=95 Ac.	Cumulative Area
Qp=68 cfs	10YR Peak Flow
FL=198 ft	Pipe Invert

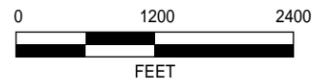
**NOTES:**

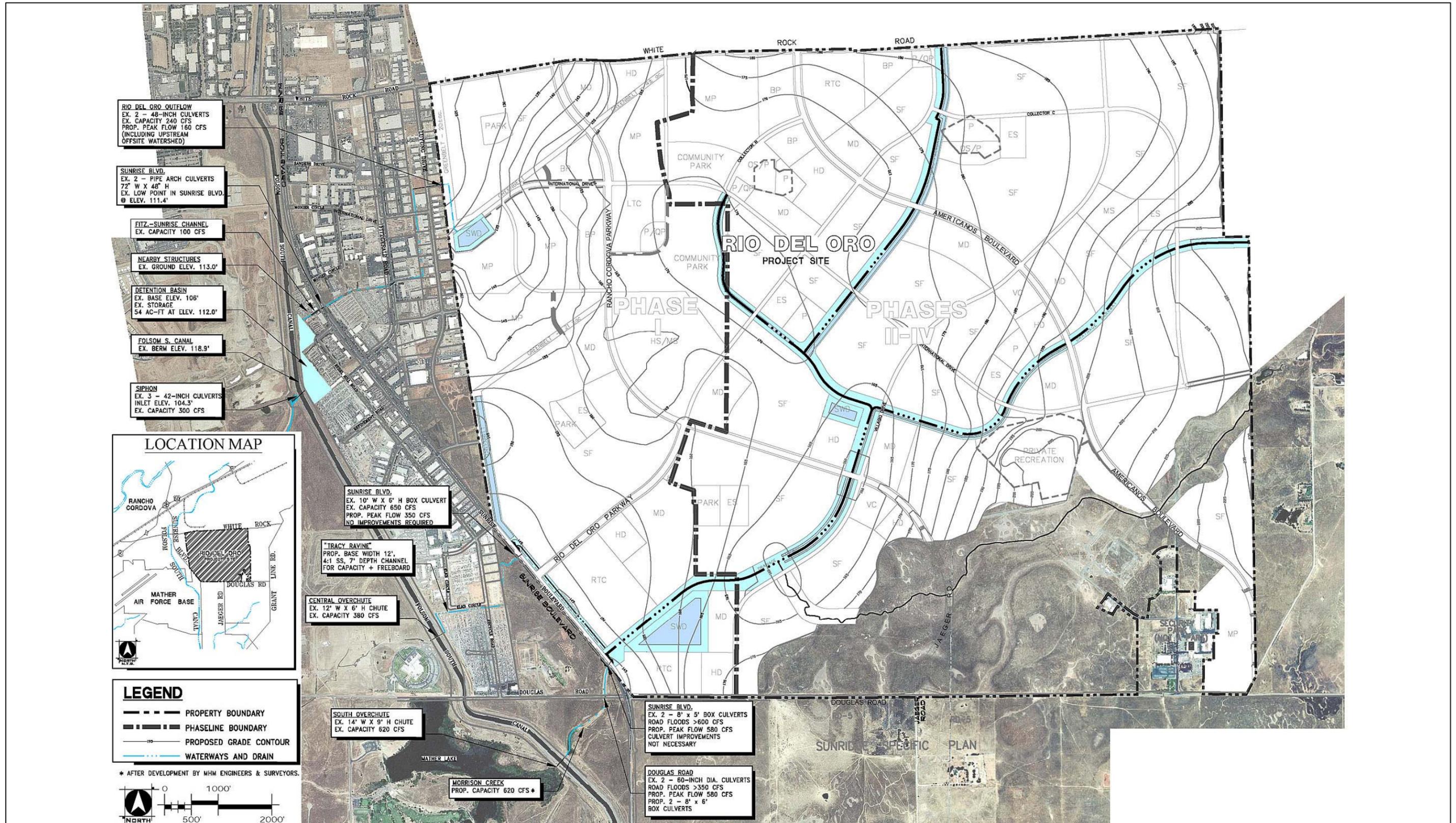
- 10 YR NODAL PEAK FLOWS APPROXIMATE
- TRUNK LINE LOCATIONS APPROXIMATE
- LAND USE REVISED BY G.C. WALLACE ON 01/27/06
- "MINED" ON-SITE GRADING BY WOODRODGERS, INC. ON 04/13/05
- \* PEAK OUTFLOW AT NORTHWEST BASIN DOES NOT INCLUDE UPSTREAM OFFSITE FLOW.
- \* PEAK OUTFLOW AT SOUTHWEST BASIN INCLUDES UPSTREAM OFFSITE FLOW. FLOW LEAVING RIO DEL ORO BORDER IS SPLIT TO ACCOMMODATE BOTH DOWNSTREAM OVERCHUTE CAPACITIES.

Source: Wood Rodgers 2005

**On-Site Drainage System**

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P-37089.01 03/06





Source: Wood Rodgers 2006

### Off-Site Drainage System

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P-37089.01 03/06

EXHIBIT 2-6b



as it flows through the project site has been designated by the County Department of Water Resources as lying within a 100-year floodplain.

A preliminary grading plan has been developed that accommodates needs for on-site stormwater detention, incorporates preferred vertical alignments for roadways and drainage parkways, and joins with existing conditions at the project boundaries. A conceptual storm-drain trunk system that would include pipes 30 inches in diameter and larger has also been developed. The design would satisfy 10- and 100-year design requirements as prescribed in the County Standards. Site grading would develop the existing watersheds to take better advantage of existing downstream restrictions and the Folsom South Canal crossings. In addition, runoff would be directed more evenly throughout the project site without the need for lengthy trunk systems to deliver stormwater to detention and water-quality treatment facilities. The conceptual grading permits call for efficient and cost-effective selection of pipe culverts at grades generally in excess of 0.5%, and a network of drainage parkways offers a preferred alternative to enclosed pipes where large runoff volumes would be conveyed.

Several drainage canals varying in length from 1,500 to 15,000 feet are proposed for construction within drainage parkways, which would vary between 200 and 375 feet wide depending on the conveyance requirement. Flow depth of the channels would not exceed 8 feet at the channel capacity. The width of the drainage parkways would permit the final construction alignments of the channels to meander through the project site, and would also lend to the construction of wetland buffer areas alongside the proposed streambanks.

The majority of the historical Morrison Creek streambed through the project site would be preserved as part of the site development plan (within the designated wetland preserve). Some grading would be required in the eastern open-space tract to contain seasonal flows to an active channel and more reliably define the extent of the 100-year floodplain in this area. Within the preserve portion of the proposed project, no alterations would be made to Morrison Creek; however, adjacent habitat restoration activities are proposed, including construction of vernal pools, seasonal wetlands, or habitat creation. Construction of a roadway crossing at Rancho Cordova Parkway is also proposed. Where Morrison Creek approaches the western boundary of the project site, the creek would be modified to permit construction of a large overbank flood-detention area. During smaller events, runoff would be conveyed within the creek banks while larger flows would utilize the large overflow area up to the design depth of the basin. The limits of the existing Morrison Creek floodplain would be modified to include the proposed drainage parkways, the detention areas, and the grading modification in the eastern open-space tract.

Three detention and water quality basins are proposed in the northwest, central, and southwest portions of development Phase 1. The 26-acre basin proposed for the southwest corner of the site would act as a large overflow basin for flows exceeding the bank-full capacity of Morrison Creek where it exits the project site. This basin would have a storage capacity of nearly 500 acre-feet. The other two basins would consist of 7 acres and 6 acres each, with storage capacities of 100 acre-feet and 70 acre-feet, respectively. Storm drainage pipes would all be 72 inches in diameter or less, with the majority less than 48 inches in diameter.

### Wetland Preserve

A total of 56.6 acres of waters of the United States are located within the project site. Additionally, 12.9 acres of wetlands were identified on the site that USACE determined to be nonnavigable, isolated, and intrastate waters with no apparent interstate commerce connection. As shown in Table 2-2, a total of 30.3 acres of waters of the United States, including wetlands, would be filled by project development, as follows: 17.3 acres of vernal pools, 2.9 acres of pond, 3.5 acres of seasonal wetland swale, 3.1 acres of seasonal wetland, and 3.5 acres of seasonal drainage.

The proposed project includes a 507-acre wetland preserve that would contain 18.234 acres of vernal pools and 8.006 acres of seasonal wetland habitats. The wetland preserve would be located on the southern portion of the project site in an area that has remained relatively undisturbed in comparison to other portions of the site. As shown in Table 2-2, a total of 26.2 acres of waters of the United States and wetlands would be preserved at the

project site, including the portion of Morrison Creek located within this area. The wetland preserve would likely be established during development Phase 1, although it would be expanded and continue to be improved as later development phases come on line. The exact timing of events within the wetland preserve would be determined by USACE’s Clean Water Act Section 404 permit requirements. The wetland preserve would not function as a mitigation bank.

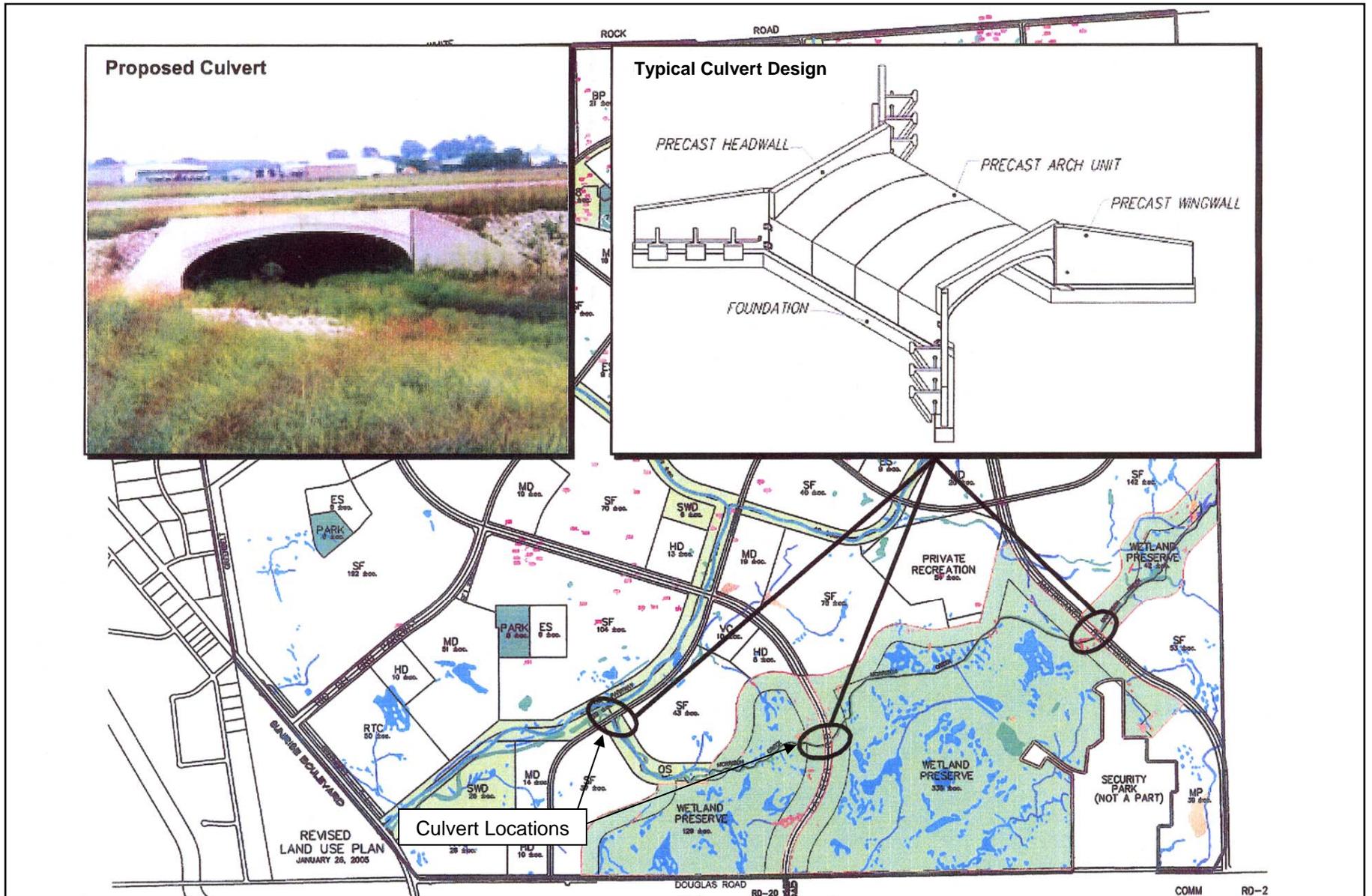
<b>Table 2-2 Waters of the United States and Wetlands at the Project Site</b>				
<b>Wetland Type</b>	<b>Existing Acres</b>	<b>Acres Affected By Project Implementation</b>	<b>On-Site Preservation Acres</b>	<b>On-Site Creation Acres</b>
Vernal pool	35.485	17.277	18.234	17.867
Pond	3.540	2.923	0.617	0.000
Seasonal wetland swale	6.044	3.509	2.445	0.000
Seasonal wetland	6.418	3.064	3.354	19.500 <sup>a</sup>
Seasonal drainage	5.145	3.555	1.590	0.000
Riparian wetland	---	---	---	12.302
Channel	---	---	---	6.534
<b>Total</b>	<b>56.632</b>	<b>30.328</b>	<b>26.240</b>	<b>56.203</b>

<sup>a</sup> Contained within three stormwater detention basins.  
Source: ECORP Consulting 2005

In addition to the 26.2 acres that would be preserved (described above), 17.9 acres of vernal pool would be created within the wetland preserve. The proposed location and sizes of the created vernal pools were designed using historical aerial photos, which show that the wetland preserve area previously supported other additional wetland features. In areas where no vernal pools historically existed, the vernal pools would be designed to include 250-foot buffers from existing vernal pools to avoid any potential indirect impacts. Monitoring of the created vernal pools would be conducted for a 10-year period with field studies occurring in years 1, 3, 5, 7, and 10.

Seasonal wetland habitats would be created in the three detention basins proposed on the site. Approximately 60% (19.5 acres) of the basins would be designed to function as seasonal wetlands. Furthermore, 186 acres of drainage corridors would be established on the project site. Low-flow channels and riparian wetland would be established in the proposed drainage corridors. These corridors would range from 200 feet to 300 feet wide and would consist of a meandering low-flow channel, adjacent wetlands, riparian plantings, and a bike trail. Assuming an average low-flow channel width of 10 feet and 10 feet of associated riparian habitat on either side, project implementation would create an additional 12.3 acres of riparian habitat and 6.53 acres of low-flow channel. These corridors would reestablish defined drainage corridors for the site that have not been present since the dredging operations completely altered the character and topography of the majority of the site.

In addition to preserving a portion of the on-site wetland resources, the wetland preserve would serve as an entrance to the Rio del Oro project site, and the open nature of the preserve would allow high visibility from the proposed Rancho Cordova Parkway and Douglas Road. To facilitate wildlife movement, the Rio del Oro project would include a special culvert design (“con-span”) where the southern portion of Rancho Cordova Parkway crosses the wetland preserve and where the southern portion of Villagio Drive crosses Morrison Creek (development Phase 3), as shown in Exhibits 2-7 and 2-8.



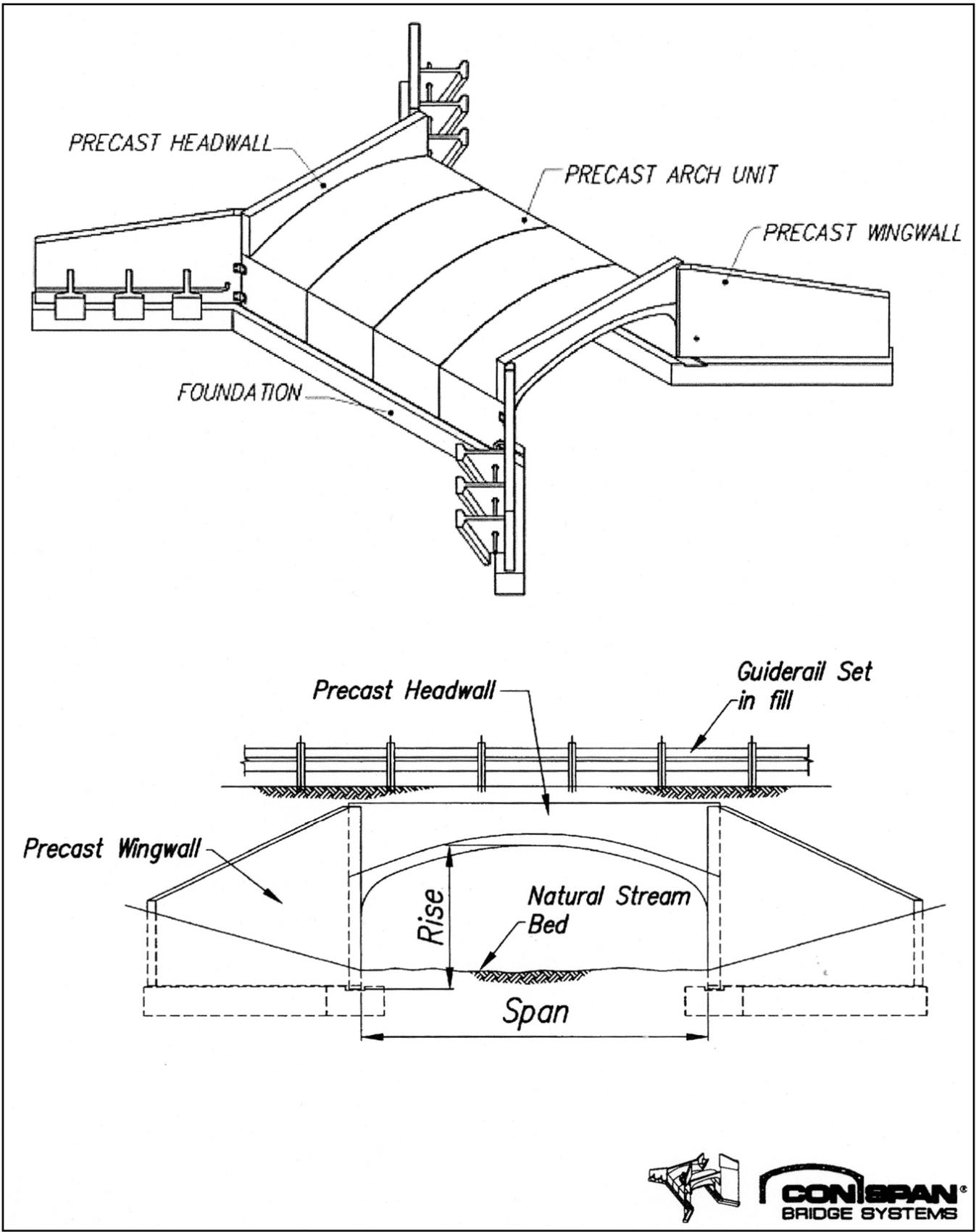
Source: ECORP 2005

## Rio del Oro Culvert Crossing Design

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 3T089.01 06/05

EXHIBIT 2-7

EDAW



Source: ECORP 2005

Typical Con-Span Design Detail

EXHIBIT 2-8

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 3T089.01 06/05



Temporary fencing would be erected between construction areas and the wetland preserve during the construction phase, and the preserve would be permanently fenced at the completion of construction to prevent unauthorized traffic. Interpretive signage would be placed along the preserve boundary to provide educational opportunities. Deed restrictions and conservation easements would be recorded that would require the wetland and open-space areas constructed on-site to be maintained as wetland and wildlife habitat in perpetuity. Copies of proposed language would be submitted to USACE for approval before recordation, and copies of the recorded documents would be provided to USACE no later than 30 days subsequent to recordation. Recordation would occur before the start of project construction.

### **Wetland Preserve Mitigation and Monitoring Plan**

A draft mitigation and monitoring plan (MMP) for the wetland preserve and additional mitigation areas has been developed by ECORP Consulting, Inc. (ECORP) on behalf of the project applicant(s) and is attached as Appendix C. An operations and management plan (O&M plan) is also being prepared for the project by ECORP on behalf of the project applicant(s). Both the MMP and the O&M plan would need to be reviewed and approved by USACE before implementation or work in waters of the United States. The MMP outlines the monitoring methods and success criteria of compensatory wetland and riparian habitat while the O&M plan lists the responsibilities of the Preserve Steward, as well as the tasks required to ensure the long-term viability of the functions and values of the preserve.

### **Schools**

Approximately 152 acres are designated as part of the proposed project for school uses, including a combined high school/middle school (78 acres), a separate middle school (20 acres), and six elementary schools (54 acres). All would be part of the Folsom-Cordova Unified School District (FCUSD). Most of the schools, along with an 87-acre community park adjacent to the high school/middle school complex in the western portion of the project site, would be jointly used by FCUSD and the Cordova Recreation & Park District. Funding would be provided through state bonds and local bonds and developer fees.

Buildout of the Rio del Oro development would generate approximately 5,479 pupils in grades K–12. Of this total, 3,213 pupils would be in grades K–5; 1,116 would be in grades 6–8; and 1,150 would be in grades 9–12 and continuation high school. FCUSD based these projections on the current land use designations and yield rates generated from similar types of development.

FCUSD is currently planning the first elementary school and the combined middle school/high school located within the Rio del Oro development (described in the section below on development Phase 1). The first middle school and high school would be combined on one large 78-acre site. The middle school would have a capacity of approximately 800 pupils and the high school would have a capacity of approximately 2,000 pupils.

The timeline for construction of the remaining schools would coincide with the project applicant(s)' buildout schedule, which is dependent upon market trends for new homes.

### **Public Utilities and Services**

Public services, utilities, and other infrastructure improvements would be needed to support the proposed Rio del Oro project as outlined in the specific plan. The project applicant(s) have initiated coordination with the various service providers regarding provision of these services on an as-needed basis. Table 2-3 provides details on the necessary off-site improvements.

### **Fire and Police Protection**

Fire protection services would be provided by the Sacramento Metropolitan Fire District. Police protection would be handled by the County Sheriff's Department under contract with the City until the City establishes an

independent police department. The facility’s needs for law enforcement and protection would be determined by that department. Public facilities would be permitted uses in any commercial, industrial, or office zone, thereby providing numerous opportunities within the project site and vicinity for fire or police stations as determined necessary.

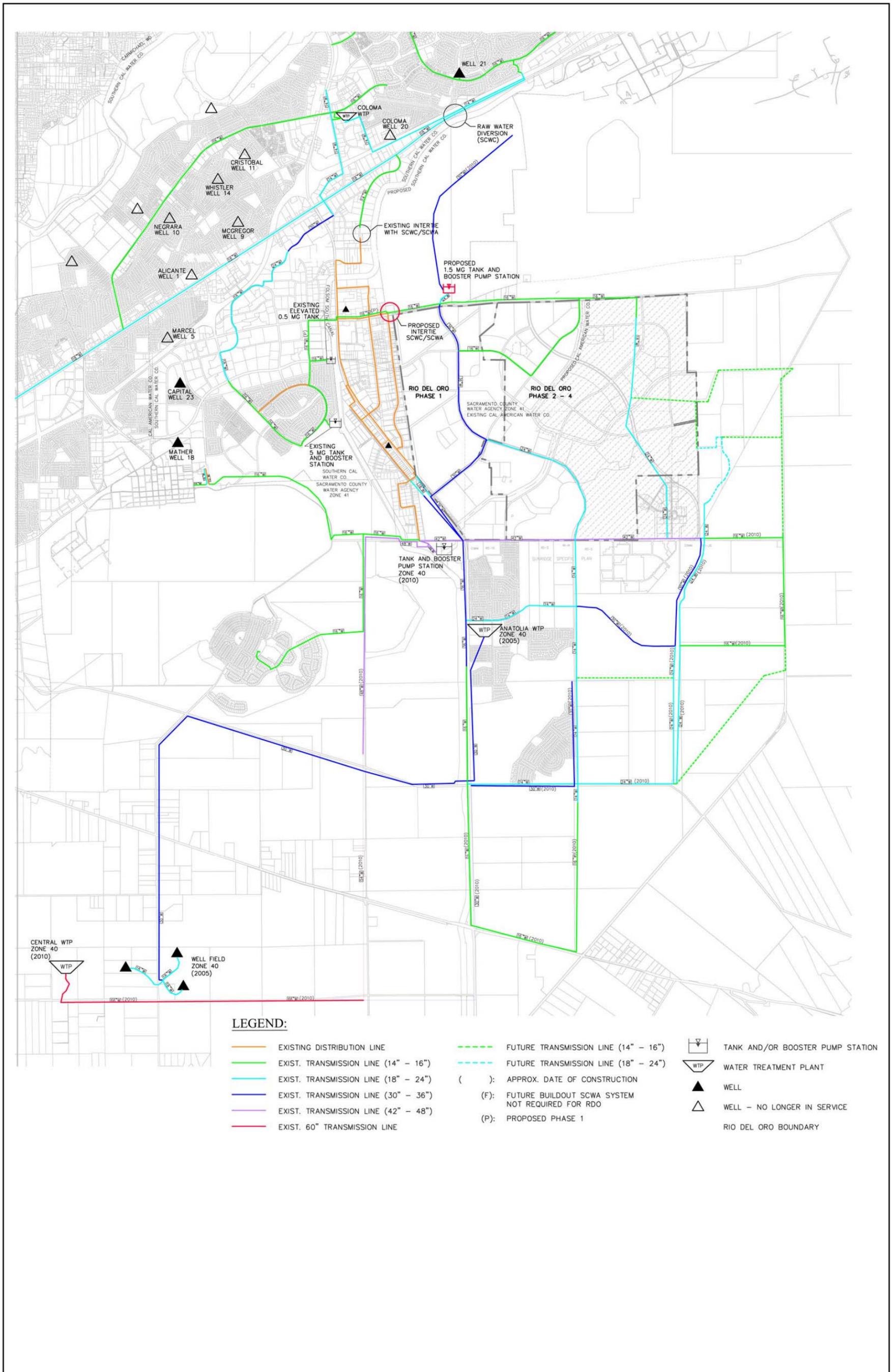
<b>Table 2-3 Rio del Oro Off-Site Infrastructure Improvements</b>		
Improvement	Phase	Approved/Existing CEQA Coverage?
Interim water transmission lines (see Exhibit 2-9c)	Phase 1	No
1.5-million-gallon water tank north of White Rock Road at the intersection with the extension of Rancho Cordova Parkway	Phase 1 or Phase 2; Zone 40 would identify as development occurred	Yes
Force main to Bradshaw Interceptor Section 7 (potential interim connection) from Sunrise Boulevard/Douglas Road intersection, west along Douglas Road to future extension of Zinfandel Drive, then north along Zinfandel Drive to Bradshaw Interceptor Section 7 at Zinfandel Drive or west along White Rock Road to Kilgore Road	Phase 1	Yes
Aerojet Sewer Interceptor Section 1 south along Sunrise Boulevard to Laguna Interceptor	NA Ultimate—when SRCSD constructs	Yes
Laguna Sewer Interceptor	NA Ultimate—when SRCSD constructs	Yes
Zone 40 Master Plan	NA Zone 40 would develop water supply as Phases 1–8 were built out	Yes
Notes: NA = not applicable; SRCSD = Sacramento Regional County Sanitation District Sources: Wood Rodgers 2005a, 2005b; data compiled by EDAW in 2005		

## Water

The project site lies outside the Sacramento County Water Agency’s (SCWA’s) existing water service areas. SCWA (Zone 40) would serve as the water wholesaler and California American Water Company (Cal-Am) and Zone 41 would operate and maintain the distribution system in the plan area. Funds to construct water supply, treatment, and transmission facilities are collected through Zone 40 development fees. For purposes of sizing transmission/distribution facilities, the total average daily demand for the Rio del Oro project is estimated to be 5,451 gallons per minute (gpm) and total maximum daily demand is estimated to be 10,902 gpm. The water supply and distribution facilities would provide adequate flow deliveries to maintain acceptable service pressures to all customers within the project site. Facilities would also meet SCWA’s operating criteria for transmission mains, as well as the fire flow requirements of the Sacramento Metropolitan Fire District.

A preliminary on-site water system has been designed as a looping system following the major street alignments (Exhibit 2-9a). The transmission system would incorporate mainline pipe sizes from 16 inches to 24 inches in diameter. The on-site distribution system would consist of 8- to 12-inch diameter pipes, with the 12-inch lines looping near sites that require higher fire flow requirements, such as commercial, industrial, and school sites. Potential off-site water supply improvements are shown in Exhibit 2-9b. Water supply facilities specific to development Phase 1 are shown in Exhibit 2-9c.



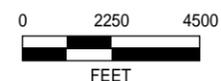


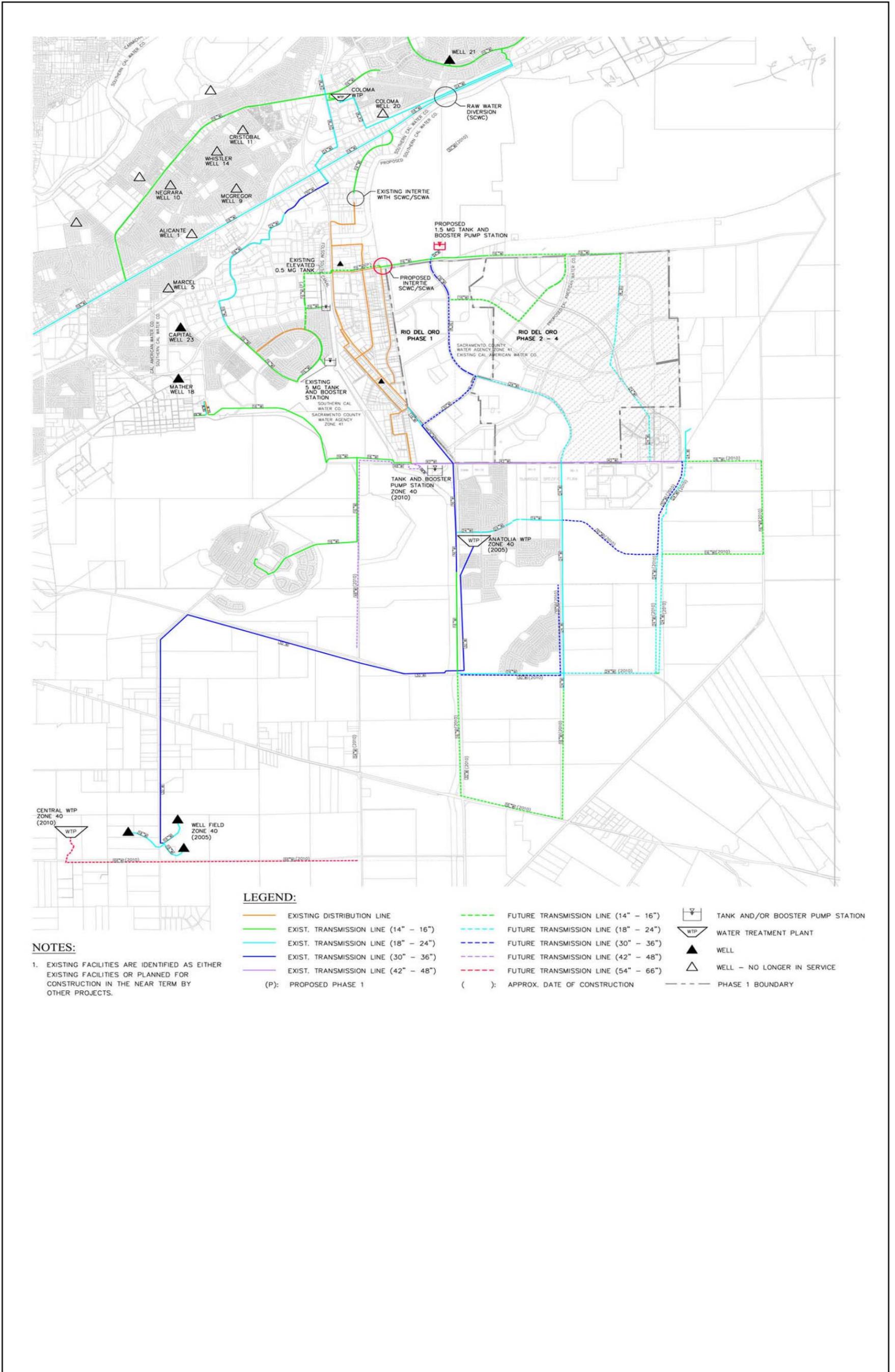
Source: Wood Rodgers 2006

Off-Site Water Supply Facilities, Full Project Build-out

EXHIBIT 2-9b

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P:37089.01 06/05





Source: Wood Rodgers 2006

Off-Site Water Supply Facilities, Phase 1

EXHIBIT 2-9c

A significant elevation difference exists across the project site and across the Cal-Am service area. A preliminary pressure-zone boundary would be established to separate the project site into two pressure/service areas. This boundary would minimize the amount of parallel piping needed between the service districts and minimize the amount of parallel piping needed to serve neighboring customers, being served by different agencies.

Potable water would be provided from Zone 40's Vineyard Water Treatment Plant. The water supply source would be remediated groundwater discharged by Aerojet and McDonnell Douglas Corporation into the American River. Priority use of the remediated groundwater would be the water purveyors in the immediate area that have lost groundwater supply because of contamination. A portion of Zone 40's water entitlement is expected to be available to service the Sunrise Corridor/Mather/Sunrise Douglas Service Areas, including the project site. Construction and permitting of the SCWA facilities necessary to deliver the water supply to the project site is estimated to be complete by 2011.

Golden State Water Company (GSWC) has identified potential water supply options for providing gap water to the project. These gap supplies could support a portion of the initial phases of development of the project (estimated in fall/winter 2007) until SCWA has constructed the facilities necessary to deliver permanent water supplies to the project site. Additional details are contained in the *Rio del Oro Specific Plan Project Amended Water Supply Assessment* (see Appendix D), and in Section 3.5, "Utilities and Service Systems," of this DEIR/DEIS.

The City of Rancho Cordova places an emphasis on the use of recycled water for nonpotable uses, such as landscape irrigation, wherever feasible. The Sacramento Regional County Sanitation District (SRCSD) is currently in the process of developing a Water Recycling Master Plan (WRMP). The WRMP will examine opportunities countywide for the use of recycled water. Presentations by SRCSD staff have encouraged communities and water purveyors within the County to consider the use of recycled water to meet future water supply needs.

The City recently passed a resolution stating that new development should install a "purple pipe" recycled-water distribution system. Because of the City's commitment to the use of recycled water, SCWA and SRCSD are in the process of investigating the feasibility of providing recycled-water service.

Initial analysis for the WRMP indicates that there would not be sufficient wastewater flow in the Bradshaw Interceptor to meet the needs of a recycled-water project that would serve Rancho Cordova, the City of Folsom, Mather, and the Glenborough development in the near term unless the recycled-water treatment plant was located south of Jackson Highway, which is several miles from the nearest place of use. Therefore, SRCSD will need to work with the cities and the appropriate water purveyors to develop and serve interim water supplies to identified projects and/or investigate the need to phase these projects to match recycled-water system expansions with available recycled-water supplies.

It is possible that in the future, a water reclamation facility could be located in close enough proximity to the project site make this use feasible. Therefore, while it may not occur for many years, it is proposed that the project implement a recycled-water-use program that would require all major irrigated landscaping and open space areas within the project site to install a purple-pipe irrigation system that could be easily converted from potable to reclaimed water supply at some future date. The recycled/purple-pipe system would be connected to the potable-water system or nonpotable remediated groundwater in the interim until a water reclamation facility is available.

At the time this DEIR/DEIS was released for public review, however, the recycled-water system had not yet been designed. Although, absent some sort of semidetained design, the City and USACE lack sufficient information to definitively address the environmental effects of a recycled-water system in this DEIR/DEIS, any such effects occurring within the boundaries of the project area would be expected to be very minimal and no different in kind or scope than the impacts of other, similar pipelines installed as part of project construction. The City anticipates that purple pipe would be installed at the same time that water and sewer pipes are being installed, typically

within streets and other rights-of-way, in areas that the DEIR/DEIS already anticipates will be disturbed. Because the DEIR/DEIS already addresses the impacts of installing these kinds of pipelines within the project area, the City and USACE believe that, once enough details of the proposed system are available to ascertain its environmental impacts, any impacts solely attributable to the purple-pipe system would likely be less than significant, and thus will not require the recirculation of, or supplementation to, this DEIR/DEIS.

## Sewer

Sanitary sewer service for the project site would be provided by SRCSD and County Sanitation District No. 1 (CSD-1). SRCSD is responsible for interceptor collection (sanitary sewers that are designed to carry flows in excess of 10 million gallons per day [mgd]) and wastewater treatment. CSD-1 is responsible for local collection facilities including trunk sewers with capacity of 1–10 mgd. These districts own, operate, and are responsible for the public collection, trunk, and interceptor sewer systems throughout Sacramento County as well as the Regional Wastewater Treatment Plant located south of Freeport. Although the project site is located within the sphere of influence of both of the County’s public sewer providers, it must be annexed to SRCSD and CSD-1 before service can begin.

The only existing public sewer facilities adjacent to the project site are small sewer laterals ranging in size from 6 to 8 inches in diameter along the western site boundary. These facilities would not support the proposed development under the specific plan.

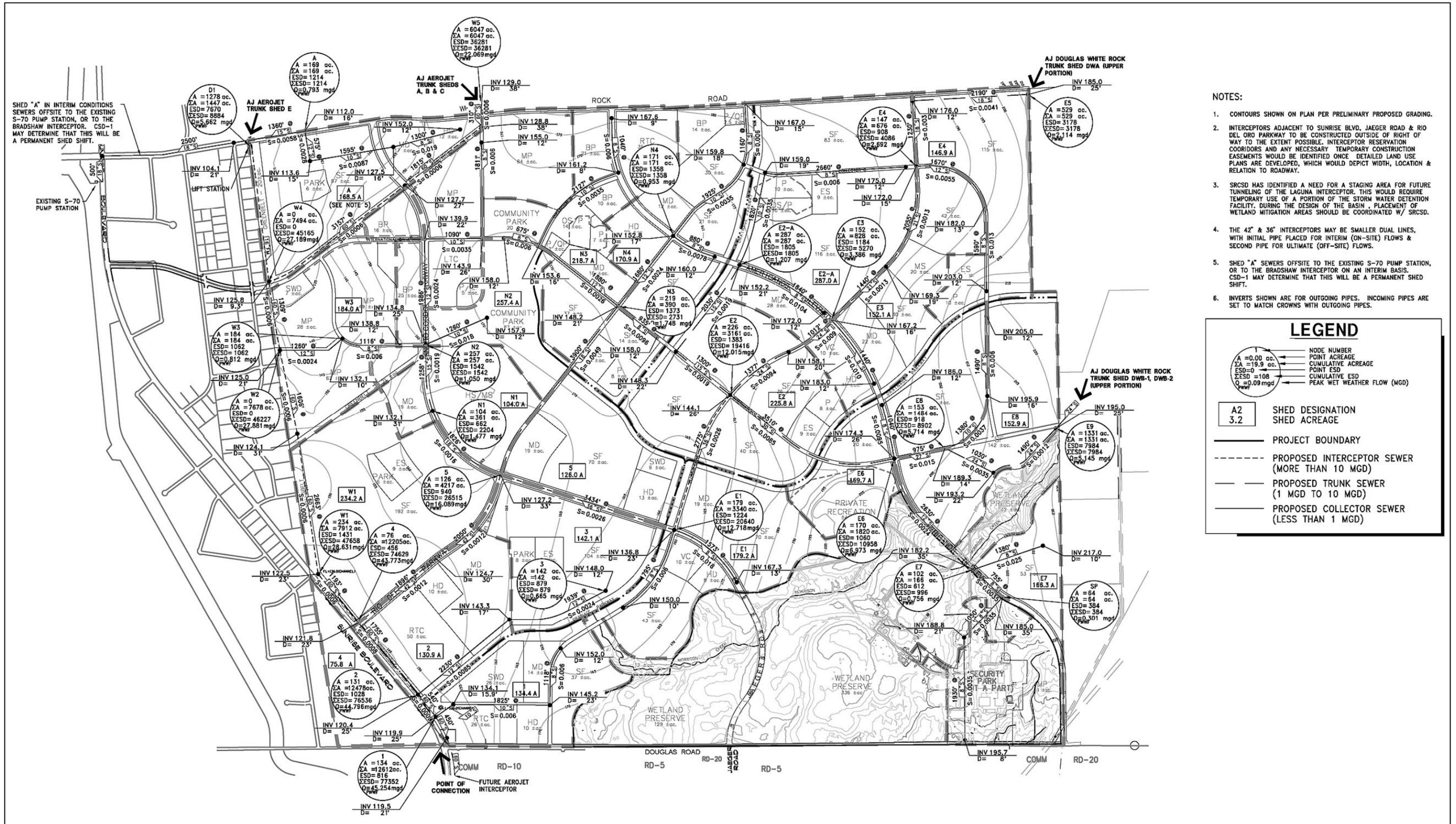
The project site lies almost entirely within CSD-1’s AJ Douglas White Rock Trunk Shed sewer system, serving flows between 1 and 10 mgd. The northwest corner of the project site is part of the AJ Aerojet Trunk Shed, which is planned to be lifted to the AJ Interceptor, Section 2. Project design would address future construction of this interceptor.

A conceptual diagram of on-site sewer facilities has been developed to serve development under the specific plan (Exhibit 2-10a). With the exception of the northwest corner, the ultimate system for the project site would be entirely gravity fed. An on-site interceptor and trunk system would be split between the north and south areas, consistent with the CSD-1 Master Plan. A southeast lateral would be extended to provide public service to the adjacent Security Park, which is currently served by private septic systems. The Sewer Master Plan shows the locations of gravity sewer lines (primarily 8- to 12-inch diameter pipes buried within each street) and the trunk facilities.

Planned off-site improvements and sewer shed boundaries are shown in Exhibit 2-10b. The Aerojet and Laguna Interceptors, as designated in the *SRCSD Interceptor System Master Plan 2000*, would service the proposed development under the specific plan. The Aerojet Interceptor (Section 2) would run along the western side of the project site, then south along Sunrise Boulevard to a connection point with the Laguna Interceptor. Discharge from the entire Rio del Oro project site would ultimately flow into the Laguna Creek Interceptor, which is not scheduled for completion until after 2024. Interim facilities for portions of the area to be served would flow into the Bradshaw Interceptor upon its completion. Total interim flows into the Bradshaw Interceptor from all projects may not exceed 39 mgd in the year 2020. It is assumed that up to 10 mgd of flows generated by the Rio del Oro project would need to be serviced on an interim basis. Initial development (development Phase 1) of the proposed project would require construction of on-site facilities to a common point near the intersection of Sunrise Boulevard and Douglas Road, where off-site facilities would then be required to convey flows to existing facilities.

Interim facilities are shown in Exhibit 2-10c. The following features would likely be constructed:

- ▶ A lift station and force main to connect to the Bradshaw Interceptor where it intersects Zinfandel Drive. The lift station would be located in the southwest corner of the Rio del Oro project site, and would be expected to service up to 10 mgd of peak wet-weather flow. The force main would travel south along Sunrise Boulevard, east along Douglas Road, across the Folsom South Canal, then north along the Zinfandel Drive alignment to a connection with the Bradshaw Interceptor or west along White Rock to Kilgore Road.



Source: Wood Rodgers 2006

### On-Site Sewer Facilities

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 03110089.01 03/06

- NOTES:**
1. CONTOURS SHOWN ON PLAN PER PRELIMINARY PROPOSED GRADING.
  2. INTERCEPTORS ADJACENT TO SUNRISE BLVD, JAEGER ROAD & RIO DEL ORO PARKWAY TO BE CONSTRUCTED OUTSIDE OF RIGHT OF WAY TO THE EXTENT POSSIBLE. INTERCEPTOR RESERVATION COORDINORS AND ANY NECESSARY TEMPORARY CONSTRUCTION EASEMENTS WOULD BE IDENTIFIED ONCE DETAILED LAND USE PLANS ARE DEVELOPED, WHICH WOULD DEPICT WIDTH, LOCATION & RELATION TO ROADWAY.
  3. SRCSD HAS IDENTIFIED A NEED FOR A STAGING AREA FOR FUTURE TUNNELING OF THE LAGUNA INTERCEPTOR. THIS WOULD REQUIRE TEMPORARY USE OF A PORTION OF THE STORM WATER DETENTION FACILITY. DURING THE DESIGN OF THE BASIN, PLACEMENT OF WETLAND MITIGATION AREAS SHOULD BE COORDINATED W/ SRCSD.
  4. THE 42" & 36" INTERCEPTORS MAY BE SMALLER DUAL LINES, WITH INITIAL PIPE PLACED FOR INTERIM (ON-SITE) FLOWS & SECOND PIPE FOR ULTIMATE (OFF-SITE) FLOWS.
  5. SHED "A" SEWERS OFFSITE TO THE EXISTING S-70 PUMP STATION, OR TO THE BRADSHAW INTERCEPTOR. THIS WOULD REQUIRE TEMPORARY USE OF A PORTION OF THE STORM WATER DETENTION FACILITY. DURING THE DESIGN OF THE BASIN, PLACEMENT OF WETLAND MITIGATION AREAS SHOULD BE COORDINATED W/ SRCSD.
  6. INVERTS SHOWN ARE FOR OUTGOING PIPES. INCOMING PIPES ARE SET TO MATCH CROWNS WITH OUTGOING PIPES.

**LEGEND**

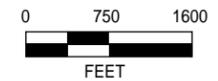
1	—	NODE NUMBER
A = 0.00 ac.	—	POINT ACREAGE
CA = 19.9 ac.	—	CUMULATIVE ACREAGE
ESD = 0	—	POINT ESD
CESD = 108	—	CUMULATIVE ESD
Q = 0.09 mgd	—	PEAK WET WEATHER FLOW (MGD)

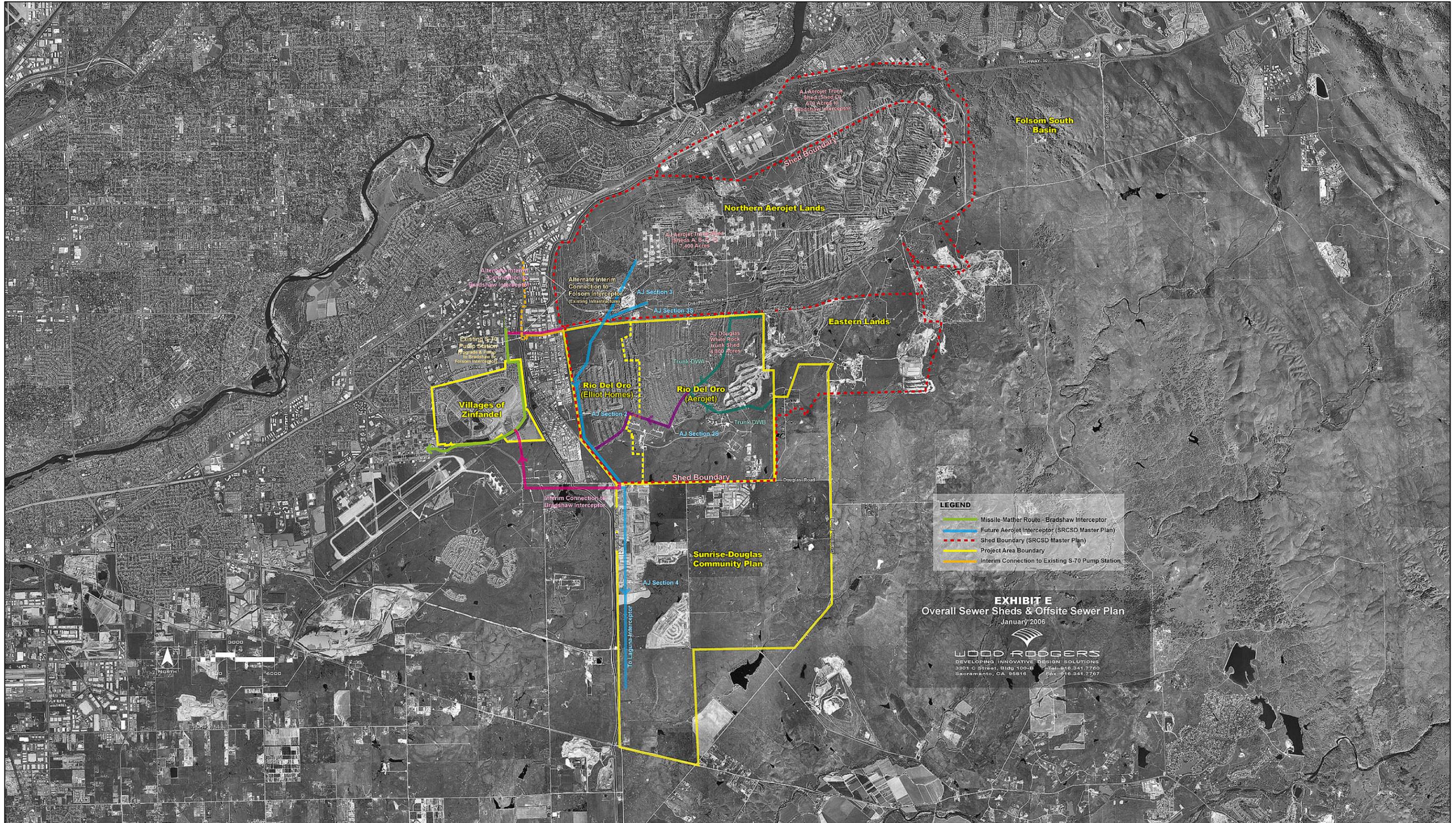
  

A2	—	SHED DESIGNATION
3.2	—	SHED ACREAGE

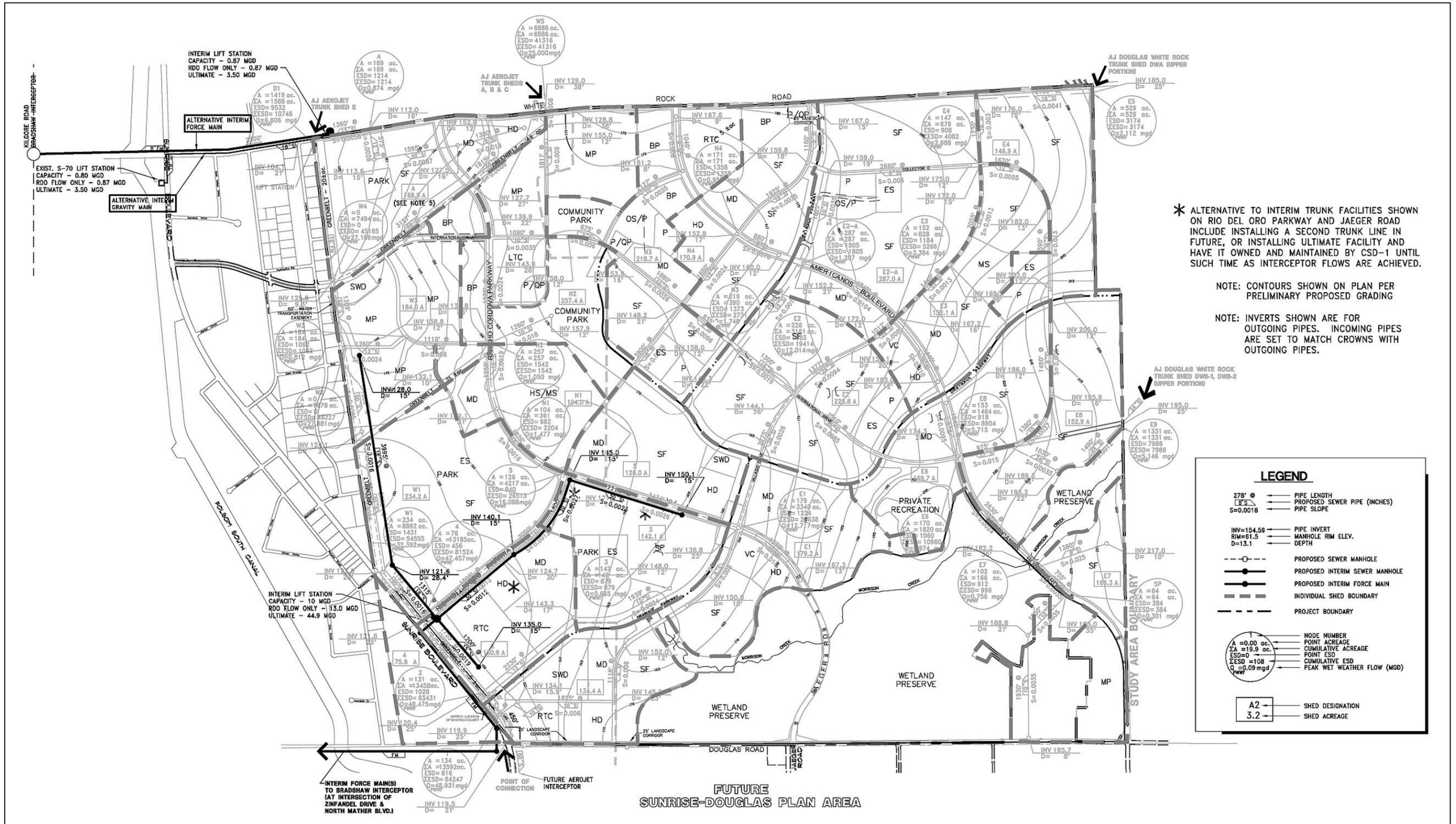
—	PROJECT BOUNDARY
---	PROPOSED INTERCEPTOR SEWER (MORE THAN 10 MGD)
---	PROPOSED TRUNK SEWER (1 MGD TO 10 MGD)
---	PROPOSED COLLECTOR SEWER (LESS THAN 1 MGD)





Source: Wood Rodgers 2006

Existing Sewersheds and Off-Site Sewer Facilities



Source: Wood Rodgers 2006

Interim Sewer Facilities

Rio del Oro Specific Plan Project DEIR/DEIS  
City of Rancho Cordova and USACE  
P03110089.01 03/06



- ▶ A new gravity sewer main running west to east along White Rock Road, then connecting to an existing 18-inch sanitary sewer.
- ▶ A lift station that would convey 1 mgd at the northwest corner of the project site, the location of a permanent trunk lift station identified in the CSD-1 Master Plan.
- ▶ Interim gravity facilities along the eastern project boundary, parallel to the future SJ Interceptor Section 2.
- ▶ Facilities along Rancho Cordova Parkway and the proposed Rio del Oro Parkway, which would be constructed before construction of an interceptor.

## Electricity

Electrical service would be provided by Sacramento Municipal Utility District (SMUD). All electrical lines under 69 kilovolts (kV) would be routed underground within the rights-of-way of project site streets. The project applicant(s) are currently working with SMUD to develop detailed design plans for electrical service to the project site. Draft plans are shown in Exhibit 2-11.

## Natural Gas

Natural gas service would be provided by Pacific Gas & Electric Company (PG&E), and would be routed underground within the rights-of-way of project site streets. The project applicant is currently working with PG&E to develop detailed design plans for natural-gas service to the project site.

## Telephone

AT&T has existing underground and overhead telephone service in the vicinity of the project site. AT&T would extend lines and construct facilities to serve the project site concurrently with development phases.

## Solid Waste Disposal

Browning Ferris Industries waste services began providing pickup and disposal of solid waste in Rancho Cordova on February 1, 2005. Services include refuse transfer, residential refuse collection, refuse disposal, and resource recovery. Waste is transported to the Kiefer Landfill located near the intersection of Grant Line Road and Kiefer Boulevard, or to the transfer station located near the intersection of Fruitridge Road and Florin Road.

## ***Circulation Improvements***

As shown in Exhibit 2-12, the proposed project includes the development of an estimated 227 acres of major roadways and associated landscaping within the project site. Access and circulation within the project site would be provided through the construction of the following primary roadways:

- ▶ Rancho Cordova Parkway, a north-south connector between Douglas Road and White Rock Road in the western part of the project site. Six lanes are proposed on the segment between White Rock Road and Villagio Drive; four lanes are proposed for the remainder of Rancho Cordova Parkway through the project site. Rancho Cordova Parkway would include a 38-foot-wide landscaped median that would accommodate future planned Bus Rapid Transit lanes.
- ▶ Americanos Boulevard, a north-south connector between Douglas Road and White Rock Road in the eastern part of the project site. Four lanes are proposed along the entire length, with a 14-foot-wide landscaped median.
- ▶ International Drive, a proposed six-lane east-west connector with a 14-foot-wide landscaped median.

- ▶ Rio del Oro Parkway, a proposed four-lane connector from Sunrise Boulevard to Rancho Cordova Parkway. A 38-foot-wide landscaped median would accommodate future planned Bus Rapid Transit lanes.

In addition, a number of two-lane internal roadways are proposed as local roads and to accommodate front-on lots. In most instances, a continuous left-turn lane or turn pockets would be necessary on these streets. On-street parking would be prohibited. These local roads would contain two-lane Class II bike lanes and an adjacent 20-foot-wide landscape corridor incorporating 6-foot-wide detached sidewalks. In 1992, SACOG approved a Metropolitan Transportation Plan that included the following regional roadway network and transit improvements: Alta-Sunrise Interchange, Grant Line Road Extension, Zinfandel Drive Extension, Douglas Road Extension, Eagles Nest Road Extension, and International Drive Extension. The project applicant(s) would be required to pay their fair share of various regional and local roadway improvements, which are discussed in Chapter 3.14, “Traffic and Transportation.”

As shown in Exhibit 2-13, the proposed project includes the development of bicycle and pedestrian trails within the project site. In addition to sidewalks, more than 15 miles of Class I paved off-street bike paths would be provided, and would be divided into five separate trails in open-space areas and parks, and along drainage parkways. Class II bicycle lanes, 7–8 feet wide, would be provided along paved streets within neighborhoods.

## **PROJECT LEVEL (DEVELOPMENT PHASE 1)**

### **Proposed Phase 1 Land Uses**

Phase 1 of the proposed project consists of the land uses described below and shown in Table 2-4 and Exhibit 2-14 (phasing map). Phase 1 buildout would be split into four subphases and would include the elements described below.

#### ***Residential***

Phase 1 of the proposed project provides for construction of 2,994 dwelling units in all three residential land-use density classifications. A total of 435 acres are proposed for residential development.

#### ***Commercial/Industrial***

Phase 1 of the proposed project includes the commercial land use classifications of Shopping Center, Business Park, and Office Park (Table 2-4). Shopping centers would comprise 98 acres of development Phase 1. The business park portion of the proposed development comprises 41 acres and is proposed along Rancho Cordova Parkway near the northwest corner of the site. In addition, 188 acres of industrial park are proposed near the northwest corner of the site.

#### ***Open Space/Parks/Recreation/Public***

Phase 1 of the proposed project includes development of 71 acres of community park and two neighborhood parks totaling 12 acres. There are also 50 acres for greenbelts proposed as components of Phase 1.

#### ***Drainages/Wetlands***

Phase 1 of the proposed project includes the creation of 33 acres of stormwater detention areas and approximately 17 acres of drainage parkway. All or portions of the wetland preserve would be created during Phase 1 depending on USACE Section 404 Clean Water Act permit requirements.

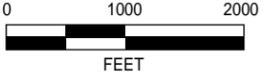


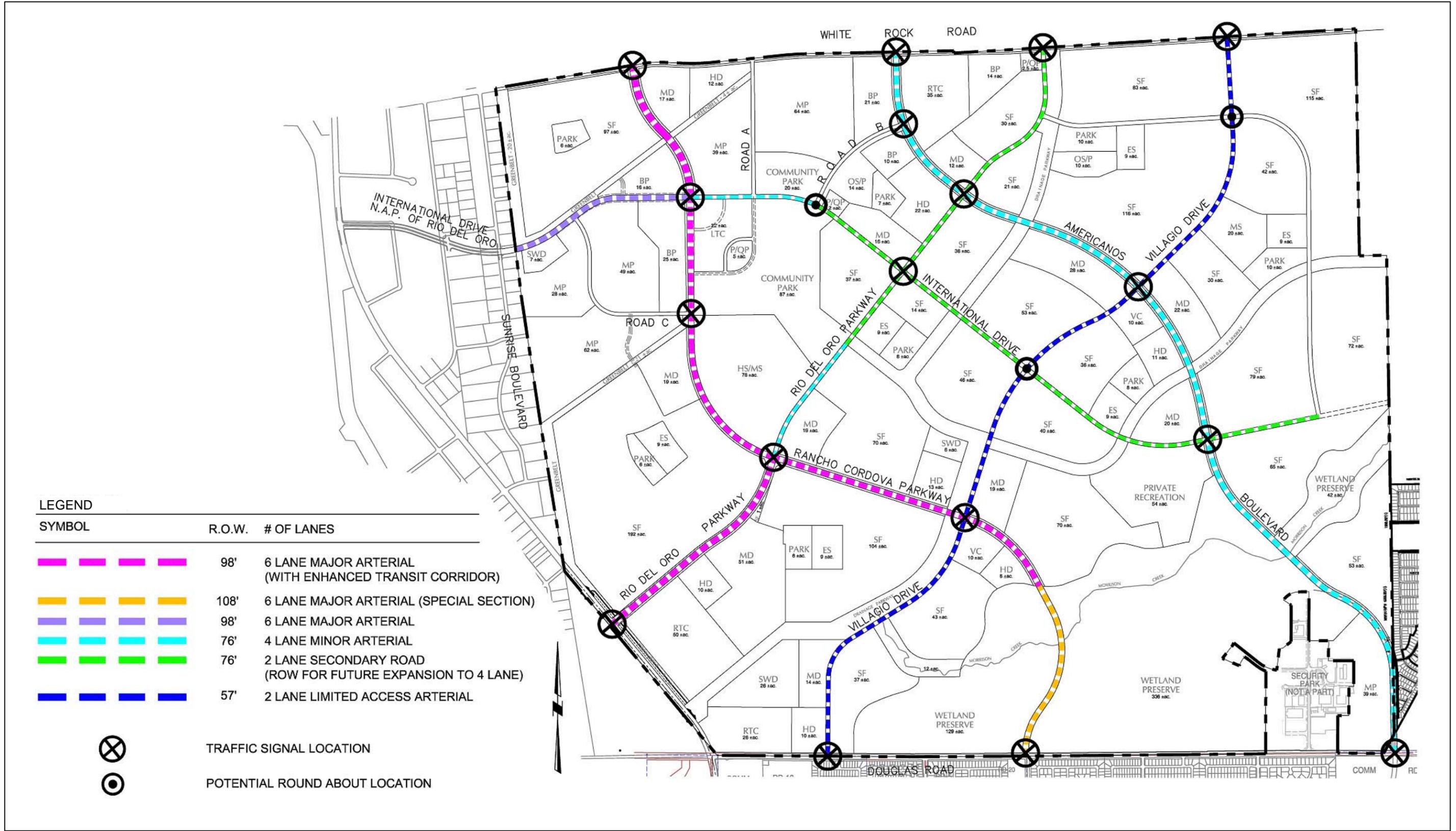
Source: G.C. Wallace 2005

**Draft Electrical Facilities Plan**

EXHIBIT 2-11

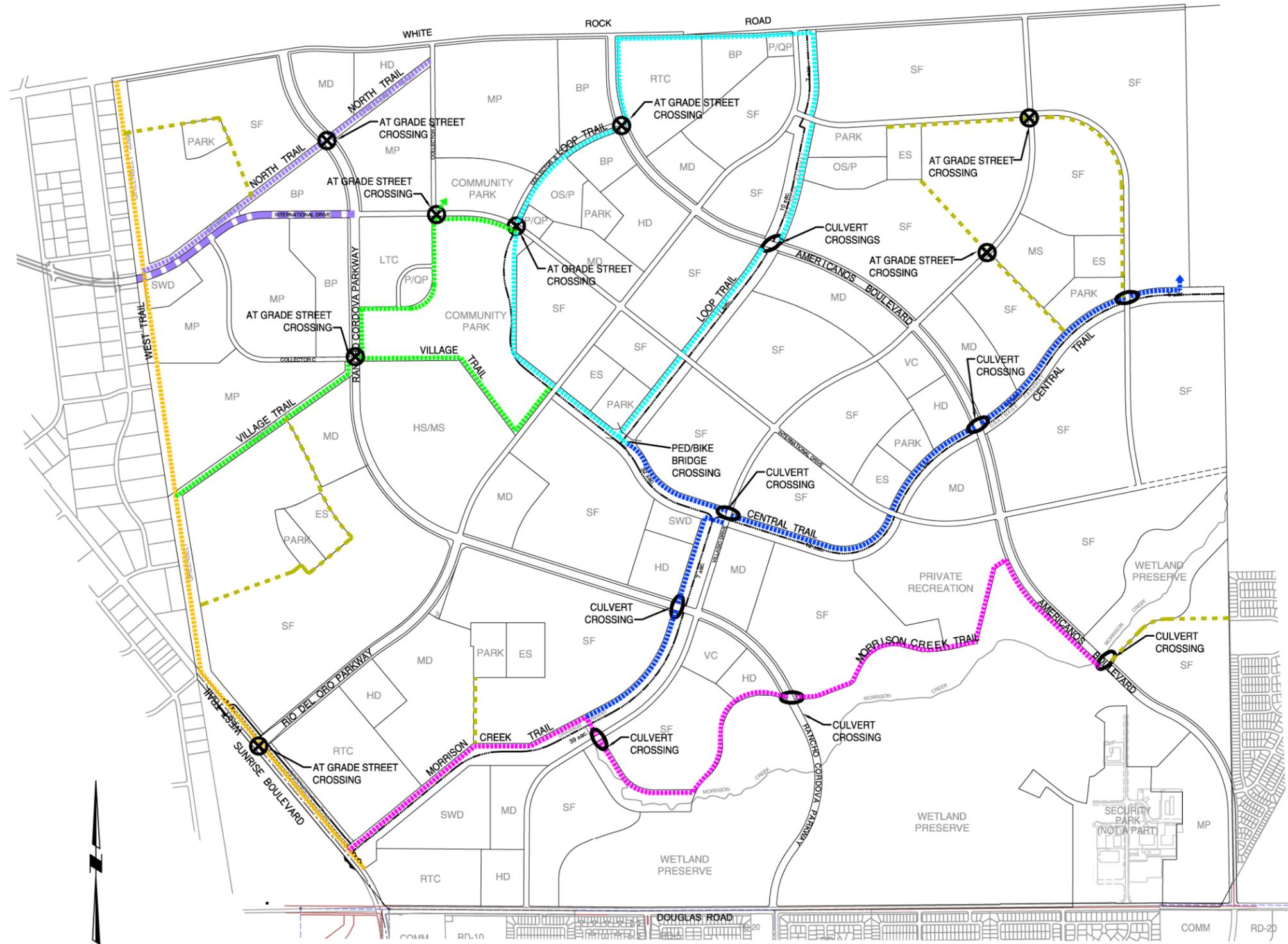
Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P:37089.01 03/06





Source: G.C. Wallace 2006

Roadway Circulation Plan



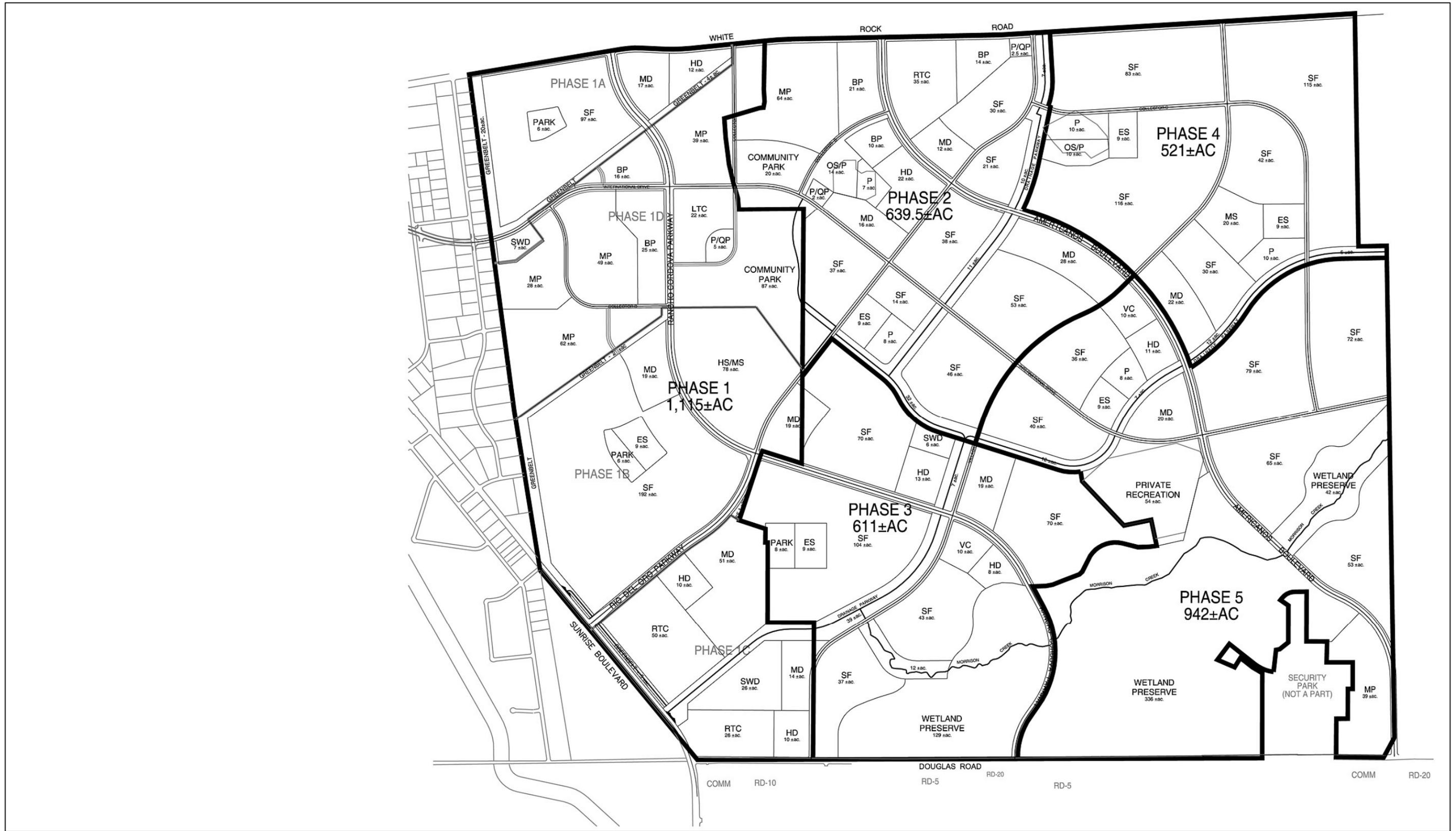
**LEGEND**

- CLASS I 10' OFF-STREET TRAIL**
- WEST TRAIL
- NORTH TRAIL
- CENTRAL TRAIL
- LOOP TRAIL
- VILLAGE TRAIL
- MORRISON CREEK TRAIL
- CLASS II TRAIL**
- NEIGHBORHOOD TRAILS  
(TO BE DETERMINED  
BY TENTATIVE SUBDIVISION MAP)
- CULVERT STREET CROSSING
- AT GRADE STREET CROSSING ⊗



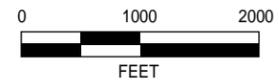
Source: G.C. Wallace 2005

**Bikeway and Trails Plan**



Source: G.C. Wallace 2005

Phasing Plan



**Table 2-4  
Acreage of Proposed Rio del Oro Specific Plan Land Uses – Development Phase 1**

Land Use	Phase 1 Acres
Single-Family Residential	290
Medium-Density Residential	113
High-Density Residential	32
Village Commercial	-
Shopping Center	98
Business Park	41
Industrial Park	188
Public/Quasi Public	5
High School/Middle School	78
Middle School	-
Elementary School	9
Community Park	71
Neighborhood Park	12
Stormwater Detention	39
Future Wetland Mitigation Bank	-
Drainage Parkway	17
Private Recreation	-
Open Space Preserve	-
Greenbelt	50
Major Road with Landscaping	78
<b>Total</b>	<b>1,121</b>

Sources: G. C. Wallace 2005, data compiled by EDAW in 2005

## Drainage Conveyance

Phase 1 of the project includes proposed development of approximately 1,100 acres of land. The development effort would require that drainage watercourses be provided to effectively drain the site, control flooding, and provide recreation and water quality benefits. Exhibit 2-6a shows the drainage features such as parkways, detention basins, and water quality treatment facilities that would be integrated into the proposed project. A network of conveyance pipes, inlets, manholes, and regulating structures would deliver runoff to the aforementioned system components.

A 26-acre detention basin and water quality pond would be constructed at the southwest corner of the project site during development Phase 1, to serve as a large overflow basin for flows exceeding the bank-full capacity of Morrison Creek where it exits the project site. A second 7-acre detention basin would be constructed adjacent to the greenbelt in the northwestern portion of development Phase 1. A third 6-acre detention basin would be constructed in the central portion of development Phase 3. Storm drainage pipes would be 72 inches in diameter or less, with the majority being less than 48 inches in diameter.

## **Schools**

### **Elementary School**

FCUSD is in the planning stages for the first elementary school to be located in the central portion of development Phase 1 on 9 acres. This school would have a capacity of approximately 600 students. Support facilities would include an administration area, multipurpose room and learning resource center, library, classrooms, kindergarten, special-education center, and overflow portable classrooms. Parking would be provided for approximately 80 staff members and visitors. Hardcourt play areas (e.g., tetherball, kickball, hopscotch) would be provided for kindergarten, primary, and intermediate grades, and would include apparatus areas and drinking fountains. A multiuse field for soccer, softball, and physical education would be provided. The Learning Resource Center would be centrally located on the campus, close to all classroom buildings, to provide maximum accessibility. Outdoor learning areas with benches for students along with a fenced outdoor patio for staff members would be included. An outdoor amphitheater would be constructed on-site. Elementary school facilities such as the library, restrooms, and outdoor sports fields would be accessible to the public after hours and on weekends. Finally, a student daycare facility and an adult-education school would also be provided on-site. Construction of the elementary school is dependent on development proposed in the Rio del Oro project, and would occur following buildout of development Phase 1. Conceptual site plans for the proposed elementary schools are not yet available.

### **Combined High School/Middle School**

FCUSD would construct and operate a combined high school/middle school facility (Mather High School and Morrison Creek Middle School) on property to be purchased from the project applicant in Phase 1. The high school would have capacity to accommodate approximately 2,100 students, and the middle school would have capacity to accommodate approximately 900 students, both on a traditional (late August–early June) calendar. The school would include an approximately 3,500-seat, lighted stadium.

- ▶ **School Facilities**—The proposed high school/middle school project would consist of approximately 315,000 square feet of overall building space on approximately 78 acres and would accommodate a total of approximately 3,000 students. The proposed site plan is provided in Exhibit 2-15.

The proposed high school would include construction of approximately 225,000 square feet (sf) of building space to house 2,100 students in 9th through 12th grades and 150 staff members on approximately 56 acres. Based on preliminary site and facility plans, the building area would consist of a kitchen, a school library (shared with the middle school and the City), a multipurpose room, two gymnasiums, classrooms, administration buildings, support facilities, and approximately 30 acres of paved and turf play fields, including a track.

The middle school would consist of approximately 90,000 sf of building area and is anticipated to house 900 students in 6th, 7th, and 8th grades and 75 staff members on approximately 22 acres. In addition to the teaching stations, the middle school would include a gymnasium, multipurpose room, kitchen, library (shared with the high school and the City), administration and support facilities, and approximately 15 acres of paved and turf play areas.

The sports fields would consist of paved and turf areas, including tracks, baseball diamonds, soccer fields, tennis courts, and other typical hardcourt uses. Outdoor security lighting would be provided for school facilities. A lighted, approximately 3,500-seat stadium is planned that would host football games, all-school assemblies, and other large events during school hours as well as during evenings and weekends.



- ▶ **Access, Circulation, and Parking**—Primary access to the campuses would be by means of two signalized intersections located on Rancho Cordova Parkway and Rio del Oro Parkway. One student dropoff/pickup area off Rancho Cordova Parkway for the high school students and one student dropoff/pickup area for the middle school students would be provided off Rio del Oro Parkway.

Bus access to both the high school and middle school campuses would be provided via a service road that would connect with Rio del Oro Parkway.

Parking for approximately 995 vehicles would be available for the combined high school/middle school and stadium, spread among three lots over approximately 21 acres.

- ▶ **School Operation**—FCUSD typically operates middle and high schools on a traditional schedule (late August–early June). The proposed project would have capacity to accommodate approximately 3,100 students under a traditional schedule. FCUSD typically does not operate high schools or middle schools on a year-round schedule.

School is anticipated to be in session from 7:45 a.m. to 3:15 p.m., Monday through Friday. The schedules of the two schools would be staggered to avoid simultaneous start and finish times. Approximately 225 teachers and support staff members would be employed. Custodial and maintenance operations, along with security services, may occur 24 hours per day.

The construction schedule for the project would be determined by the timing of funding approval and the need to provide facilities to adequately house the number of students projected from the development. Funding could be made available from a combination of district construction funds, developer fees, and state and local bonds that have been approved by voters. Depending on funding, construction of the proposed school would begin within 18 months to 2 years from completion of Phase 1 buildout. The estimated opening date for the high school/middle school would be 2009 (pending funding).

### **Public Utilities and Services**

Public services, utilities, and other infrastructure improvements would be needed to support Phase 1 of the proposed project. The project applicant(s) have initiated coordination with the various service providers regarding provision of these services on an as-needed basis. Table 2-5 shows the site improvements necessary for development Phase 1.

<b>Table 2-5 Project Site Improvements for Rio del Oro Specific Plan Development Phase 1</b>	
Improvement	On- or Off-Site?
Install electrical lines as shown in Exhibit 2-11	On-site
Install natural-gas lines as developed with PG&E	On-site
Install internal roadways as shown in Exhibit 2-12	On-site
Install bicycle paths as shown in Exhibit 2-13	On-site
Install water lines as shown in Exhibits 2-9a and 2-9c	On- and off-site
Install sewer lines as shown in Exhibits 2-10a and 2-10b	On- and off-site
Source: Information compiled by EDAW in 2005	

Interim facilities would likely involve construction of the following features:

- ▶ A lift station and force main to connect to the Bradshaw Interceptor where it intersects Zinfandel Drive. The lift station would be located in the southwest corner of the Rio del Oro project, and would be expected to service up to 10 mgd of peak wet-weather flow. The force main would travel south along Sunrise Boulevard, west along Douglas Road, across the Folsom South Canal, then north along the Zinfandel Drive alignment to a connection with the Bradshaw Interceptor. These facilities would go out of service when the Laguna Interceptor is constructed.
- ▶ A lift station that would convey 1 mgd at the northwest corner of the project site, the location of a permanent trunk lift station identified in the CSD-1 Master Plan. This facility would remain in service at buildout.
- ▶ Facilities along Rancho Cordova Parkway and Rio del Oro Parkway, which would be constructed before construction of an interceptor. SRCSD would decide whether these facilities would be dismantled/abandoned in place or whether they could serve another purpose that could be identified in future updates to the SRCSD Master Plan.
- ▶ A new gravity sewer main running west to east along White Rock Road, then connecting to an existing 18-inch sanitary sewer.

### ***Roadway and Bike Trail Improvements***

Phase 1 of the proposed project includes the development of an estimated 78 acres of major roadways with associated landscaping within the project site. Access and circulation within the project site would be provided through the construction of the following primary roadways: four-lane and six-lane sections of Rancho Cordova Parkway, all of Rio del Oro Parkway, and portions of three 60-foot collectors.

As shown in Exhibit 2-14, development Phase 1 would also include construction of two Class II bike trails within neighborhoods, as well as the North Bike Trail, most of the Village Bike Trail, a portion of the Morrison Creek Trail, and a trail within the greenbelt along the western project boundary.

### **SUBSEQUENT DEVELOPMENT PHASES OF THE SPECIFIC PLAN**

Development Phases 2–5 of the specific plan would occur subsequent to development Phase 1 and would encompass lands on the remaining 2,728 acres owned by GenCorp as shown in exhibit 2-14. These development phases are analyzed at the program level in this DEIR/DEIS.

#### **Phase 2**

Development Phase 2 would include the north central 639.5 acres of the project site. Proposed construction of this phase would consist of the following improvements, assuming timely receipt of all necessary approvals:

- ▶ Seven areas of single-family residential housing (252 acres)
- ▶ Three areas of medium-density residential housing (56 acres)
- ▶ One area of high-density residential housing (22 acres)
- ▶ One elementary school (9 acres)
- ▶ Two neighborhood parks (15 acres)
- ▶ Completion of the community parks initiated in Phase 1 and construction of a second community park (36 acres)
- ▶ Drainage parkways (60 acres)
- ▶ One open space/preserve (14 acres)
- ▶ Two public/quasipublic areas (4.5 acres)
- ▶ Three business parks (45 acres)

- ▶ One industrial park (55 acres)
- ▶ One regional town center (35 acres)
- ▶ The northern portion of Americanos Boulevard and International Drive, and at least two additional 60-foot local roads (36 acres)
- ▶ A Class I off-street bicycle trail (the Loop Trail), and a portion of the Central Bike Trail (also Class I)

### **Phase 3**

Development Phase 3 would include the south central 611 acres of the project site. Proposed construction of this phase would consist of the following improvements, assuming timely receipt of all necessary approvals:

- ▶ Five areas of single-family residential housing (324 acres)
- ▶ Two areas of medium-density residential housing (26 acres)
- ▶ Two areas of high-density residential housing (21 acres)
- ▶ One village commercial center (10 acres)
- ▶ One elementary school (9 acres)
- ▶ One neighborhood park (8 acres)
- ▶ Drainage parkways (29 acres)
- ▶ Stormwater detention basin (6 acres)
- ▶ Open space (12 acres)
- ▶ Completion of Rancho Cordova Parkway and at least one 60-foot local road (37 acres)
- ▶ Portions of the Central Bike Trail and the Morrison Creek Bike Trail

### **Phase 4**

Development Phase 4 would include the northeast 521 acres of the project site. Proposed construction of this phase would consist of the following improvements, assuming timely receipt of all necessary approvals:

- ▶ Five areas of single-family residential housing (386 acres)
- ▶ One area of medium-density residential housing (22 acres)
- ▶ One middle school (20 acres)
- ▶ Two elementary schools (18 acres)
- ▶ Two neighborhood parks (20 acres)
- ▶ Drainage parkways (18 acres)
- ▶ Open-space preserve (10 acres)
- ▶ Two 60-foot local roads (27 acres)
- ▶ Two Class II bike trails within neighborhoods and the remaining portion of the Central Bike Trail

### **Phase 5**

Development Phase 5 would include the southeast 942 acres of the project site. Proposed construction of this phase would consist of the following improvements, assuming timely receipt of all necessary approvals:

- ▶ Five areas of single-family residential housing (345 acres)
- ▶ One area of medium-density residential housing (20 acres)
- ▶ One area of high-density residential housing (11 acres)
- ▶ One village commercial center (10 acres)
- ▶ Industrial park (39 acres)
- ▶ Private recreation area (54 acres)
- ▶ Elementary school (9 acres)
- ▶ Neighborhood park (8 acres)
- ▶ Drainage parkway (19 acres)
- ▶ Completion of Americanos Boulevard and the southern half of a 60-foot local road (49 acres)

- ▶ A Class II bike trail within neighborhoods, and completion of the Morrison Creek Bike Trail

## **CONSTRUCTION ACTIVITIES**

In addition to on-site project development, off-site improvements for proposed roadway alignments and utility construction would also be necessary. Such improvements would include new buildings, parking lots, utility relocations and installations, and roadway construction. Within the construction sites, areas would be protected from disturbance where feasible to preserve specimen trees and native vegetation. Construction activities also includes demolition of existing structures.

Construction staging areas would be established during each phase of Rio del Oro project development. These fenced staging areas would be used for storage of vehicles, equipment, materials, fuels, lubricants, and solvents. The stockpiling or vehicle staging areas would be identified in the improvement plans and would be located as far as practical from protected resources in the area. All staging areas would be sited in disturbed areas. No sensitive resources would be affected by staging area implementation.

Mining activities at the project site are currently being conducted by Teichert Aggregates, Inc. (Teichert), pursuant to a Conditional Use Permit (originally issued by the County as predecessor to the City). The City has also issued a Conditional Use Permit to Teichert for mining at the Grantline West location, and expects to receive one or more additional applications for Conditional Use Permits or Implementation Permits (the latter for mining activities within the project site). These mining activities are not part of the Rio del Oro project and would continue under the individual permits already issued by the County and City or issued in the future, if applicable. Environmental evaluations for removal of dredge tailings (i.e., mining activities) are separate actions from the proposed project and would be prepared (if applications are submitted) independent of any project approvals. Existing, pending, and future Conditional Use Permit or Implementation Permit applications to remove the dredge tailings are discussed below under “On-Site Mining Activities under Existing (2005) and Future Baseline Conditions (No Project Alternative)” in Section 2.7, “No Project Alternative.”

## **2.4 HIGH DENSITY ALTERNATIVE**

This alternative was designed to further embrace the concept of “Smart Growth,” consistent with the SACOG Blueprint. SACOG has been involved in a multiyear study of its six-county area to consider how best to accommodate anticipated growth over the next 50 years, while maintaining regional amenities such as open space (i.e., agriculture and habitat), efficient infrastructure, and livable communities. The SACOG Blueprint vision promotes the development of compact, mixed-use development and more transit choices as an alternative to low-density development.

Both the Proposed Project Alternative and the High Density Alternative were designed based on a realistic long-term planning process intended to minimize the extent of the inevitable physical expansion of the overall regional urban area. Thus, both the Proposed Project and High Density Alternatives were designed with Smart Growth principles in mind; however, the High Density Alternative provides for a greater concentration of development. A summary comparison of the long-term environmental benefits to be gained, or adverse impacts to be avoided, among all alternatives is provided at the end of this chapter; detailed comparisons are provided within each section of Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures.”

Although low density on a particular property may reduce the levels of impacts occurring on or emanating from the property, low densities can be considered an inefficient use of finite land resources. In areas with growing populations, low-density development coupled with increasing market demand can result in development being pushed outward toward other areas on the urban periphery, with the long-term consequence of more overall loss of habitat, open space, and farmland. Under Smart Growth principles, areas that are planned for development are developed at higher densities. Although these higher densities may result in greater localized impacts on resources, the overall area of disturbance is reduced by concentrating development in particular locations.

Sacramento County is experiencing demographic pressure reflecting an increasing statewide population and intrastate migration from the San Francisco Bay Area and southern California, and the City is interested in furthering its goals and objectives of providing a mix of affordable housing and new jobs to its residents; therefore, Smart Growth principles suggest that developing the site with a higher density use while avoiding wetland areas would focus market demand for development into an area near existing development, infrastructure, and services.

The High Density Alternative envisions a greater density of residential development on a similar footprint as the Proposed Project Alternative, resulting in more dwelling units per acre. The total acreage of residential development would be the same, but the density would be increased such that approximately 3,800 additional residential units would be constructed. The acreage of commercial and industrial development would be the same. The types of land uses and general on- and off-site infrastructure improvements under the High Density Alternative (Exhibit 2-16) would remain the same as under the Proposed Project Alternative. A 507-acre wetland preserve (the same size as under the Proposed Action Alternative) is also designated under the High Density Alternative. Tables 2-6 and 2-7 list the total estimated development under this alternative.

<b>Table 2-6 Summary Comparison of Residential Development under the High Density Alternative and the Proposed Project Alternative</b>						
Land Use Type	High Density Alternative			Proposed Project Alternative		
	Acres	du/ac <sup>1</sup>	Units	Acres	du/ac <sup>1</sup>	Units
Single-Family Residential	1,567	6	9,402	1597	5	7,985
Medium-Density Residential	249	14	3,486	237	8	1,896
High-Density Residential	104	25	2,600	86	20	1,720
<b>Total</b>	<b>1,920</b>		<b>15,488</b>	<b>1,920</b>		<b>11,601</b>

<sup>1</sup> du/ac = dwelling units per acre  
Source: G. C. Wallace 2005

<b>Table 2-7 Summary Comparison of Commercial and Industrial Development under the High Density Alternative and the Proposed Project Alternative</b>		
	High Density Alternative Acres	Proposed Project Alternative Acres
Village Commercial	20	20
Shopping Center	133	133
Business Park	86	86
Industrial Park	282	282
<b>Total</b>	<b>521</b>	<b>521</b>

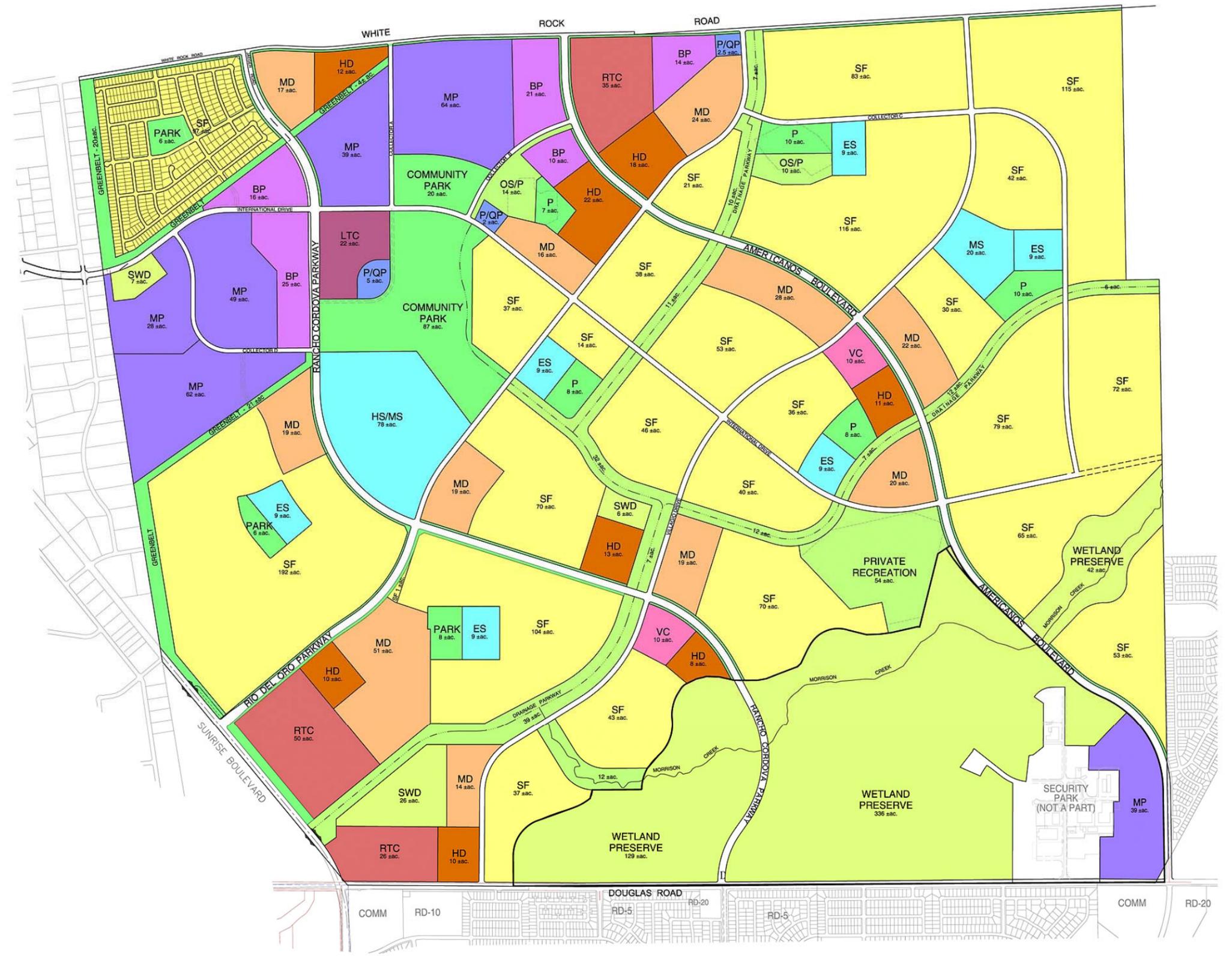
Source: G. C. Wallace 2005

## 2.5 IMPACT MINIMIZATION ALTERNATIVE

This alternative was formulated to provide a reduced level of environmental impacts when compared with the Proposed Project Alternative, while still meeting some of the City’s CEQA goals and objectives and satisfying USACE’s overall NEPA and 404(b)(1) project purpose to provide a large-scale mixed-use community within Sacramento County. Under the Impact Minimization Alternative, project components would be reconfigured to avoid most, but not all impacts on USACE jurisdictional wetlands and high-quality biological habitat, and the level of residential development would be decreased to reduce the amount of project-generated traffic, air quality emissions, and noise (Exhibit 2-17). A permit for wetland fill would still be required under this alternative. An additional 485 acres in the southern portion of the project site would be designated as part of the wetland

### LAND USE SUMMARY

LAND USE	ACRES	DENSITY RANGE	FIXED COUNT	UNITS	UNIT %
SF SINGLE FAMILY RESIDENTIAL	1,567	2.1 TO 6.0	6 DU/AC	9,402	69%
MD MEDIUM DENSITY RESIDENTIAL	249	6.1 TO 18.0	14 DU/AC	3,486	16%
HD HIGH DENSITY RESIDENTIAL	104	18.1 TO 40.0	25 DU/AC	2,600	15%
VC VILLAGE COMMERCIAL	20				
LTC LOCAL TOWN CENTER	22				
RTC REGIONAL TOWN CENTER	111				
BP BUSINESS PARK	86				
MP INDUSTRIAL PARK	282				
P/QP PUBLIC / QUASI PUBLIC	9.5				
MS/HS SCHOOL CAMPUS	78				
MS MIDDLE SCHOOL	20				
ES ELEMENTARY SCHOOL	54				
CP COMMUNITY PARK	107				
P NEIGHBORHOOD PARKS	63				
SWD STORM WATER DETENTION	39				
WETLAND PRESERVE	507				
DRAINAGE PARKWAY	143				
PRIVATE RECREATION	54				
OS OPEN SPACE	12				
OS/P OPEN SPACE/ PRESERVE	24				
LANDSCAPE CORRIDORS	44				
GB GREENBELTS	50				
MAJOR ROADS	183				
<b>TOTALS:</b>	<b>3828.5</b>			<b>15,488</b>	<b>100%</b>

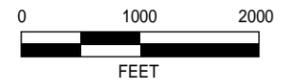


Source: G.C. Wallace 2005

### High Density Alternative Land Use Plan

EXHIBIT 2-16

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
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**LAND USE SUMMARY**

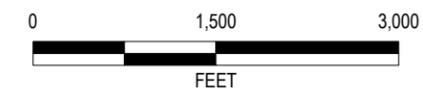
LAND USE	ACRES	DENSITY RANGE	FIXED COUNT	UNITS	UNIT%
SF SINGLE FAMILY RESIDENTIAL	1,032.0	2.1 to 6.0	5 DU/AC	5,160	44%
MD MEDIUM DENSITY RESIDENTIAL	241.0	8.1 to 18.0	8 DU/AC	1,826	15%
HD HIGH DENSITY RESIDENTIAL	174.0	18.1 to 40	20 DU/AC	3,480	41%
VC VILLAGE COMMERCIAL	20.0				
LTC LOCAL TOWN CENTER	22.0				
RTC REGIONAL TOWN CENTER	87.0				
BP BUSINESS PARK	107.0				
MP INDUSTRIAL PARK	261.0				
P/Q/P PUBLIC/QUASI PUBLIC	10.0				
HS/MS SCHOOL CAMPUS	77.3				
MS MIDDLE SCHOOL	20.0				
ES ELEMENTARY SCHOOL	44.5				
CP COMMUNITY PARK	108.0				
P NEIGHBORHOOD PARKS	59.0				
SWD STORM WATER DETENTION	36.0				
WETLAND PRESERVE/ MITIGATION BANK	994.5				
DRAINAGE PARKWAY	147.0				
PRIVATE RECREATION	50.0				
OSP OPEN SPACE/PRESERVE	24.0				
LANDSCAPE CORRIDORS	44.0				
GB GREENBELTS	45.0				
MAJOR ROAD	225.0				
<b>TOTALS:</b>	<b>3,829</b>			<b>10,968</b>	

Source: EDAW 2005, City of Rancho Cordova 2005

**Impact Minimization Alternative Land Use Plan**

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 X 03110089.01 004 7/06

EXHIBIT 2-17



preserve, and the 60-acre retail center in the southwestern portion of the project site would be moved farther north. Thus, a total of 994.5 acres, approximately 25% of the project site, would become a protected wetland preserve. Under this alternative, 13.5 acres of jurisdictional waters of the United States would be filled, 12.9 acres of nonjurisdictional wetland would be filled, and 43.1 acres of existing wetland would be preserved. The total acreage of residential development would be reduced by approximately 470 acres and approximately 1,040 fewer residential units would be constructed, although overall density would increase (a greater proportion of residential acreage would be developed with medium and high density). Commercial and industrial development sites would be reduced by approximately 30 acres. The types of land uses and general on- and off-site infrastructure improvements would remain the same as under the Proposed Project Alternative. Tables 2-8 and 2-9 list the total estimated residential, commercial, and industrial development under this alternative. (See also Appendix E for the habitat assessment prepared for the Rio del Oro project that aided in the development of this alternative.)

<b>Table 2-8 Summary Comparison of Residential Development under the Impact Minimization Alternative and the Proposed Project Alternative</b>						
Land Use Type	Impact Minimization Alternative			Proposed Project Alternative		
	Acres	du/ac <sup>1</sup>	Units	Acres	du/ac <sup>1</sup>	Units
Single-Family Residential	1,032.5	5	5,162	1,597	5	7,985
Medium-Density Residential	241	8	1,928	237	8	1,896
High-Density Residential	173.5	20	3,470	86	20	1,720
<b>Total</b>	<b>1,447</b>		<b>10,560</b>	<b>1,920</b>		<b>11,601</b>

<sup>1</sup> du/ac = dwelling units per acre  
Sources: G. C. Wallace 2005, City of Rancho Cordova 2005, data compiled by EDAW in 2005

<b>Table 2-9 Summary Comparison of Commercial and Industrial Development under the Impact Minimization Alternative and the Proposed Project Alternative</b>		
	Impact Minimization Alternative Acres	Proposed Project Alternative Acres
Village Commercial	20	20
Shopping Center	109	133
Business Park	105.5	86
Industrial Park	258.5	282
<b>Total</b>	<b>493</b>	<b>521</b>

Source: G. C. Wallace 2005

## 2.6 NO FEDERAL ACTION ALTERNATIVE

This alternative was designed to avoid the placement of dredged or fill material into waters of the United States, including wetlands, thus eliminating the need for a USACE Section 404 permit. This alternative, however, would still constitute a “federal” action because it would require compliance with the ESA. A land use map showing development areas and jurisdictional wetlands with a 50-foot avoidance buffer is provided in Exhibit 2-18. Under this alternative, the 507-acre wetland preserve that would be created under the Proposed Project, which would require continuing activities as part of a Mitigation and Monitoring Plan approved by USACE, would not exist. Instead, 835 acres of the project site would be designated “Natural Resources” under the City General Plan. Land with this use designation is set aside as natural habitat with no urban development. While open-space trails may

be located adjacent to areas designated as Natural Resources, the City would prohibit public access into the area. This alternative would also eliminate the 76-acre Regional Town Center proposed for the southwest corner of the project site; instead, an 18-acre Local Town Center would be developed. This Regional Town Center could not be relocated on the site under this alternative, for the same reasons described in Section 2.10, “Increased Preserve/No Regional Town Center Alternative.” This alternative also would not entail construction of the southern end of either Rancho Cordova Parkway or Americanos Boulevard, which would consequently eliminate designated utility rights-of-way (sewer and water) and therefore would require alternative, and more expensive/time consuming, methods of construction such as horizontal directional drilling. Under this alternative, approximately 836 fewer residential housing units would be constructed, and approximately 90 fewer acres would be used for commercial/industrial development, than under the proposed project. Tables 2-10 and 2-11 list the total estimated residential, commercial, and industrial development under this alternative.

<b>Table 2-10 Summary Comparison of Residential Development under the No Federal Action Alternative and the Proposed Project Alternative</b>						
Land Use Type	No Federal Action Alternative			Proposed Project Alternative		
	Acres	du/ac <sup>1</sup>	Units	Acres	du/ac <sup>1</sup>	Units
Single-Family Residential	1,447	5	7,385	1,597	5	7,985
Medium-Density Residential	210	8	1,680	237	8	1,896
High-Density Residential	85	20	1,700	86	20	1,720
<b>Total</b>	<b>1,772</b>		<b>10,765</b>	<b>1,920</b>		<b>11,601</b>

<sup>1</sup> du/ac = dwelling units per acre  
Source: G. C. Wallace 2006

<b>Table 2-11 Summary Comparison of Commercial and Industrial Development under the No Federal Action Alternative and the Proposed Project Alternative</b>		
	No Federal Action Alternative Acres	Proposed Project Alternative Acres
Village Commercial	32	20
Shopping Center	75	133
Business Park	92	86
Industrial Park	232	282
<b>Total</b>	<b>431</b>	<b>521</b>

Source: G. C. Wallace 2006

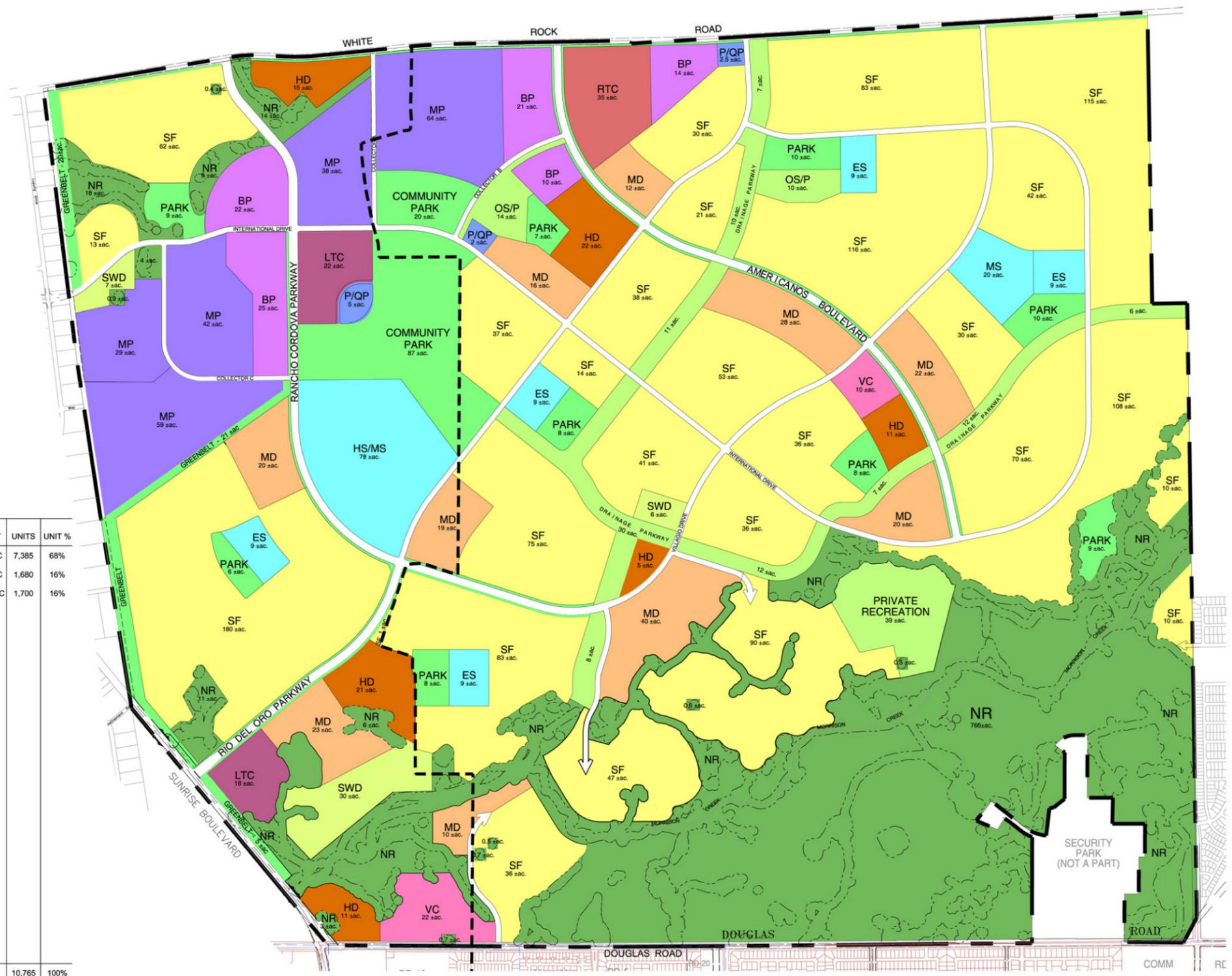
## 2.7 NO PROJECT ALTERNATIVE

Under this alternative, the project would not be developed. However, the No Project Alternative assumes that aggregate mining operations to remove portions of the existing dredge tailings at the project site would continue under existing, pending, and proposed Conditional Use and Implementation Permits, described below. The future mining activities may also require a Section 404 permit from USACE. The majority of the project site would remain under the jurisdiction of the City. This analysis uses existing site conditions at the time that the NOP was published (December 2003) as the “existing conditions” portion of the “no project” scenario (see State CEQA Guidelines Section 15126.6[e][2]) to allow consideration of a full range of alternatives. Remediation of

**LEGEND**  
 50-foot buffer around jurisdictional waters of the U.S. including wetlands

**LAND USE SUMMARY**

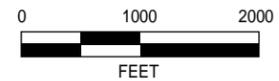
LAND USE	ACRES	DENSITY RANGE	FIXED COUNT	UNITS	UNIT %
SF SINGLE FAMILY RESIDENTIAL	1,477	2.1 TO 6.0	5 DU/AC	7,385	68%
MD MEDIUM DENSITY RESIDENTIAL	210	6.1 TO 18.0	8 DU/AC	1,680	16%
HD HIGH DENSITY RESIDENTIAL	85	18.1 TO 40.0	20 DU/AC	1,700	16%
VC VILLAGE COMMERCIAL	32				
LTC LOCAL TOWN CENTER	40				
RTC REGIONAL TOWN CENTER	35				
BP BUSINESS PARK	92				
MP INDUSTRIAL PARK	232				
P/QP PUBLIC / QUASI PUBLIC	9.5				
MS/HS SCHOOL CAMPUS	78				
MS MIDDLE SCHOOL	20				
ES ELEMENTARY SCHOOL	45				
CP COMMUNITY PARK	107				
P NEIGHBORHOOD PARKS	75				
SWD STORM WATER DETENTION	43				
NR NATURAL RESOURCES	835				
DRAINAGE PARKWAY	103				
PRIVATE RECREATION	39				
OS/P OPEN SPACE/ PRESERVE	24				
LANDSCAPE CORRIDORS	34				
GB GREENBELTS	46				
MAJOR ROADS	167				
<b>TOTALS:</b>	<b>3,828.5</b>			<b>10,765</b>	<b>100%</b>



Source: G.C. Wallace 2006

**No Federal Action Alternative**

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 03110089.01 09/06



contaminated soil and groundwater is a separate action that will continue either with or without project implementation.

### **2.7.1 ON-SITE MINING ACTIVITIES UNDER EXISTING (2005) AND FUTURE BASELINE CONDITIONS (NO PROJECT ALTERNATIVE)**

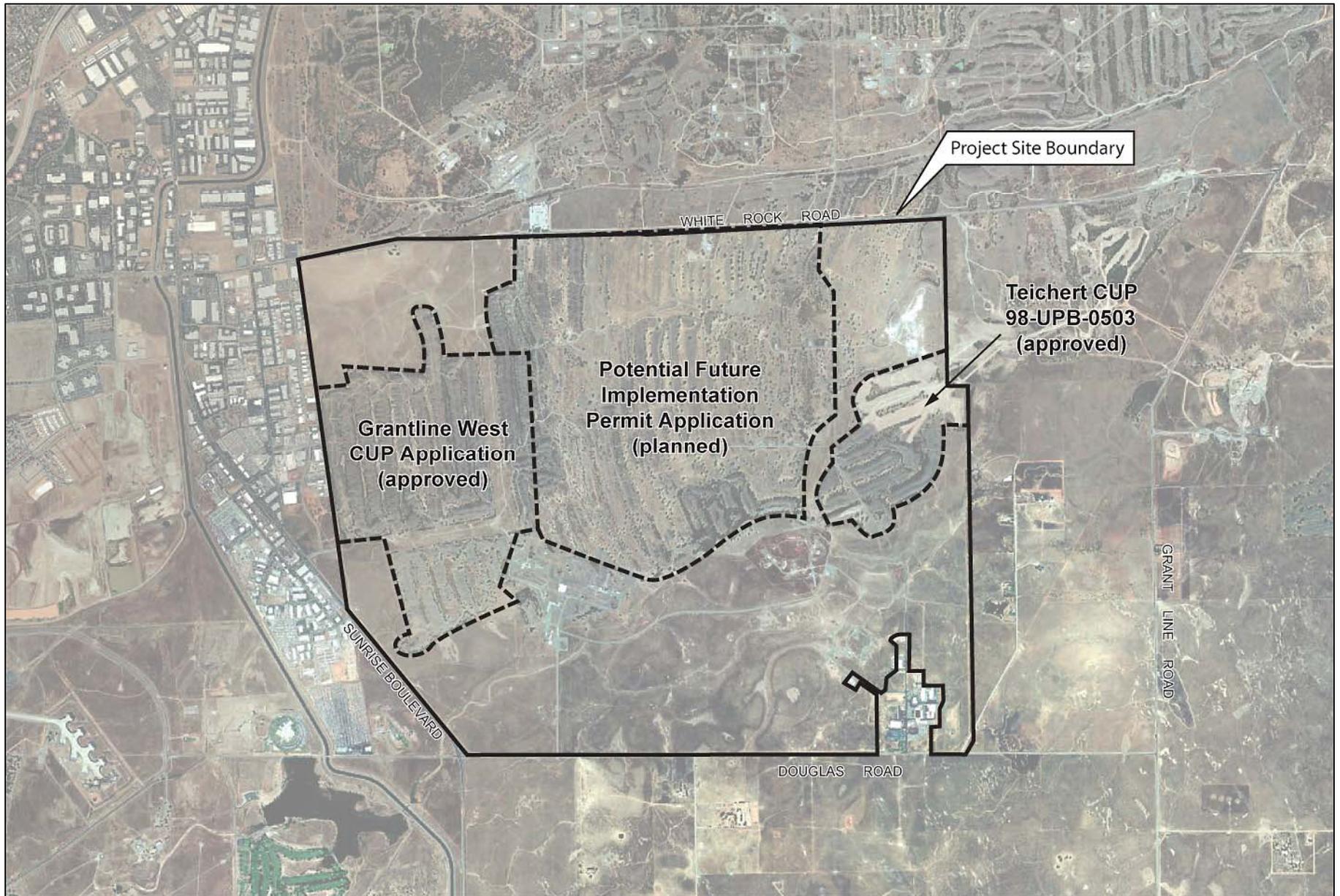
Under the No Project Alternative, project-related development would not occur. The analysis of impacts under the No Project Alternative contained in Chapter 3, “Affected Environmental, Environmental Consequences, and Mitigation Measures” relies, as noted above, on conditions at the project site as of the date of filing of the NOP (December 12, 2003) as the baseline. However, because the site contains economically valuable aggregate resources, it is assumed that already locally approved and proposed mining activities would continue at the site regardless of whether or not the project was implemented. Thus, baseline environmental conditions under the No Project Alternative would change as a result of approved and planned aggregate mining activities. Although NEPA permits the use of future conditions after the initiation and/or completion of ongoing activities as a potential baseline, the City and USACE chose to use the most conservative approach in this DEIR/DEIS analysis, which is existing site conditions at the time that the NOP was published. In other words, this DEIR/DEIS could have analyzed the project’s potential effects as compared to a baseline environmental setting that included any changes made to the existing setting since December 12, 2003. Instead, this document treats the baseline as the setting before initiation of any mining activities that have resulted in a removal of aggregate material from the project site.

This approach is consistent with the State CEQA Guidelines (14 CCR Section 15125), which state that the description of the physical environmental conditions in the vicinity of the project, as they exist at the time that the NOP is published, is the environmental setting that will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. This approach also has the virtue of avoiding the potential confusion that might result from using different baselines for CEQA and NEPA purposes.

Mining activities are currently being conducted by Teichert on the eastern portion of the project site. A Mitigated Negative Declaration was prepared by the City in May 2004 on Teichert’s request to expand its existing Conditional Use Permit (CUP 98-UPB-0503) to include an additional 180 acres on the Rio del Oro project site (Exhibit 2-19). Teichert applied for a second Conditional Use Permit (Grantline West Mining Plan) in the western portion of the project site. This Conditional Use Permit would remove a portion of the dredge tailings on approximately 583 acres in the central portion of development Phase 1 (Exhibit 2-19). In June 2005, the City completed a Mitigated Negative Declaration to evaluate potential impacts that could result from these mining activities, and approved this second Conditional Use Permit application. Another application to remove a portion of the dredge tailings in the central portion of the project site is expected from Granite Construction Company in the future (Exhibit 2-19). The City would prepare another, separate environmental document to assess potential impacts from this future application.

As a result of aggregate mining, at the start of each phase of project-related construction activities, a portion of the piles of dredge tailings will have been removed down to the current natural grade and most of the associated vegetation will have been removed. However, mining activities will not disturb any land within a 50-foot radius of an elderberry shrub, will avoid all native oak trees, and will not disturb any land within a 250-foot radius of a vernal pool. Thus, mining activities will avoid all sensitive species and sensitive habitats. Land in the southern portion of the project site does not contain aggregate resources and will not be mined. Before the start of project-related grading activities, the project applicant(s) would obtain all necessary permits related to sensitive species and habitats so that project construction activities in the sensitive areas avoided by the mining activities could move forward.

Although the environmental impacts of the mining activities have been addressed in separate environmental documents, a brief summary of the analysis of impacts that would occur under the No Project Alternative, assuming that mining activities continue, is provided in Table 2-12.



Source: City of Rancho Cordova 2004 and 2005

## Aggregate Mining Locations

**Table 2-12  
Summary of Potential Impacts from Ongoing Mining Activities for the Approved Grantline West and Aerojet Mining Amendment Conditional Use Permits under the No Project Alternative**

Issue Area	Potential Impact
Aesthetics	Implementation of mining activities would not create any new sources of light or glare. There are no scenic views from the mining sites that would be affected by mining activities, nor are the mining sites visible from any designated scenic highway. The Grantline West and Aerojet Mining Amendment mining sites do not contain any scenic resources.
Air Quality	PM <sub>10</sub> emissions from equipment used during mining operations could exceed SMAQMD standards. The <i>Grantline West Mitigated Negative Declaration</i> (City of Rancho Cordova 2005) and the <i>Aerojet Mining Amendment Mitigated Negative Declaration</i> (City of Rancho Cordova 2004), however, contain mitigation measures to reduce PM <sub>10</sub> emissions. As mitigated, mining activities would not exceed SMAQMD standards for other criteria pollutants.
Biological Resources	Mining activities could adversely affect habitat for the valley elderberry longhorn beetle and Swainson's hawk. The <i>Grantline West Mitigated Negative Declaration</i> (City of Rancho Cordova 2005) and the <i>Aerojet Mining Amendment Mitigated Negative Declaration</i> (City of Rancho Cordova 2004), however, contain mitigation measures to reduce impacts on valley elderberry longhorn beetle and Swainson's hawk. Mining activities have been designed to avoid all wetland features on the project site, and should not interfere with the movement of any wildlife species. Mining activities would be designed to avoid impacts on 19 oak trees identified through surveying activities as meeting City criteria for protection. Because there is no adopted habitat conservation plan that would include the mining sites, mining activities would not conflict with any such plans.
Cultural Resources	Investigations conducted by City staff indicated that the Grantline West and Aerojet Mining Amendment mining sites did not contain known historic or cultural resources. Even so, however, the <i>Grantline West Mitigated Negative Declaration</i> (City of Rancho Cordova 2005) and the <i>Aerojet Mining Amendment Mitigated Negative Declaration</i> (City of Rancho Cordova 2004) contain mitigation measures to reduce impacts on previously unknown cultural resources if any are encountered during mining activities.
Geology, Soils, and Mineral Resources	Although grading activities associated with mining would remove vegetative cover and expose soils to wind and surface-water runoff, mining activities would be subject to the County Land Grading and Erosion Control Ordinance (the ordinance in effect at the time of preparation of the mitigated negative declarations), which requires conformance with established procedures to control erosion and sedimentation. Mining site soil types do not constitute a hazard related to landslides, liquefaction, or subsidence. The clay content of mining site soils would not affect mining activities because buildings and other structures would not be constructed. The mining sites are not located in a seismically active area that would present a safety hazard related to rupture of a known earthquake fault or strong seismic ground shaking. Mining activities would result in a beneficial use of the aggregate resources at the two sites.
Hazards and Hazardous Materials	The Aerojet mining site in the eastern portion of the project site is within 250 feet of the Alpha Complex, which was built and operated by McDonnell Douglas Corporation to test rocket engines. TCE was used to clean engine parts and has been found in soil and groundwater beneath the Alpha Complex. However, the Alpha Complex site is fenced, and available data from soil and groundwater testing indicate that TCE contamination does not extend to soil outside of the fenced complex. Thus, TCE contamination would not present a hazard to activities at that mining site. Soil is not contaminated at the location of the Grantline West mining activities. Mining activities would not involve the routine transport of hazardous materials. Although mining activities would involve the use of oils, fuels, lubricants, and other potentially hazardous substances associated with equipment maintenance, these materials would be limited in quantity and would be stored off-site. Although the mining sites are within 2 miles of Mather Airport, they are not within the area covered by the Mather Airport Comprehensive Land Use Plan. Mining activities would have no effect on Mather Airport safety or operations, nor would they impair implementation of adopted County emergency response plans, in effect at the time of preparation of the mitigated negative declarations. The mining sites are not located in a wildland fire hazard zone.

**Table 2-12  
Summary of Potential Impacts from Ongoing Mining Activities for the Approved Grantline West and Aerojet Mining Amendment Conditional Use Permits under the No Project Alternative**

Issue Area	Potential Impact
Hydrology and Water Quality	Mining activities have the potential to result in both short-term and long-term water quality effects from runoff and sedimentation. However, mining operators would be required to prepare a SWPPP, apply BMPs, and comply with County erosion-control policies in effect at the time of preparation of the mitigated negative declarations. A minimal amount of water for mining activities (i.e., washing equipment and wetting on-site roads) would be obtained from East Well No. 1, which is located on the Clark Cattle Company site. This well is currently used for existing mining operations and is periodically monitored. Use of water from this well would not significantly affect groundwater resources. There are no drainages at the Grantline West site that would be affected by mining activities. Existing drainage swales and berms at the Aerojet Mining Amendment site currently direct water around the area of mining activities, and would not be affected by the additional mining operations. Furthermore, a natural berm constructed during earlier dredge mining activities separates the Aerojet mining site from existing swales on adjacent undisturbed land. Mining operations would not place housing within a 100-year floodplain.
Land Use and Agriculture	Mining activities at the project site would be consistent with the site's existing zoning for industrial land use, and would be an approved land use within the 65-dB CNEL contour under the Mather Airport Land Use Compatibility Plan. Because the Rio del Oro area is currently undeveloped and is surrounded by only a limited amount of development, mining operations would not physically divide an established community. Mining activities would not convert any Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to a nonagricultural use, nor would it convert land held under a Williamson Act contract.
Noise	Environmental acoustics analyses were conducted for both mining sites (see <i>Grantline West Mitigated Negative Declaration</i> [City of Rancho Cordova 2005] and <i>Aerojet Mining Amendment Mitigated Negative Declaration</i> [City of Rancho Cordova 2004]). The results of these analyses indicated that mining activities would not exceed daytime criteria listed in the County Noise Ordinance (the ordinance in effect at the time of preparation of the mitigated negative declarations. The nearest residences are located 1,200 feet from the Aerojet Mining Amendment site and 5,000 feet from the Grantline West mining site. Results of the environmental acoustics analyses indicated that under worst-case scenarios when equipment would be operating closest to these residences, noise levels would not exceed daytime criteria listed in the County Noise Ordinance. Although the mining sites are within 2 miles of Mather Airport, they are not within the area covered by the Mather Airport Comprehensive Land Use Plan, and noise levels from mining activities would have no effect on Mather Airport safety or operations.
Public Services	Mining operations would not affect existing public services in the area, and no housing, businesses, and/or infrastructure would be constructed as part of the projects.
Recreation	Mining operations would not affect existing parks or recreational facilities, nor would construction of additional recreation facilities be required.
Traffic	Each mining site is expected to employ six employees. The use of existing area roadways by these employees would not cause a substantial increase in vehicle trips or congestion at intersections in relation to the existing traffic load, nor would it cause degradation in levels of service. Aggregate material would continue to be removed from the Aerojet mining site by a conveyor belt, which would reduce the number of truck trips on local roadways. Although aggregate materials would be hauled off-site from the Grantline West mining site, the amount of truck traffic on area roadways would remain constant because the same number of trucks from other mining sites would be rerouted for use at the Grantline West site. Existing trucks currently being used at the Aerojet mining site would continue to be used for additional mining activities at that location. The mining sites have multiple access points for emergency vehicles. Employees would park on-site in areas devoid of vegetation, or would park off-site in existing parking spaces at the processing plant.
Utilities and Services	Mining operations would not involve wastewater discharge, would not increase stormwater runoff, and would not require solid-waste disposal services. Sufficient water supplies are available from East Well No. 1.
<p>Notes: BMP = Best Management Practices; City = City of Rancho Cordova; CNEL = Community Noise Equivalent Level; County = County of Sacramento; dB = decibel; PM<sub>10</sub> = particulate matter less than or equal to 10 microns in diameter; SMAQMD = Sacramento Metropolitan Air Quality Management District; SWPPP = Storm Water Pollution Prevention Plan; TCE = trichloroethene</p> <p>Sources: City of Rancho Cordova 2004, 2005</p>	

Although this No Project/No Action Alternative (referred to elsewhere in this document as the “No Project Alternative”) is evaluated herein, consistent with CEQA and NEPA requirements, it is an unlikely long-term alternative for the Rio del Oro project site because, according to the City General Plan, the project site is located in an area planned for urban development. Entitlements are actively being sought for development in the vicinity of the project site (e.g., Sunrise Douglas Community Specific Plan, Mather Field Redevelopment Project, Easton Planning Area, SunCreek Specific Plan area). Infrastructure planning is also occurring for the area, as part of the South County Water Authority’s Water Treatment Plant, CSD-1 Sewer Master Plan, SRCSD Interceptor System Master Plan, Alta-Sunrise Interchange, Zinfandel Drive Extension, and Douglas Road Extension. The regional economic base will continue to expand as a result of these and other development projects in the region, and the associated growth in housing demand will increase the development pressure on the Rio del Oro project site. Therefore, it is unreasonable to assume that the site would remain in its current agricultural and industrial use on a long-term basis. It would be speculative to assume what type of development, other than the project, would be planned in the future.

Consistent with CEQA and NEPA requirements, this No Project/No Action Alternative is evaluated in this DEIR/DEIS. The No Project/No Action Alternative would not meet either the CEQA or NEPA project purpose, need, or objectives of the proposed Rio del Oro project as described in Chapter 1, “Introduction and Statement of Purpose and Need.”

## **2.8 OFF-SITE ALTERNATIVES**

Off-site alternatives are usually considered in environmental documents when one of the means to avoid or eliminate the significant impacts of a project is to develop it in a different available location. To be considered feasible by the City, development on potential off-site locations must be able to fulfill the project purpose and attain most of the basic objectives of the Rio del Oro project. To satisfy the project applicant(s)’ and the City’s project objectives under CEQA, a large undeveloped site in Rancho Cordova would be needed. To satisfy USACE’s project purpose under NEPA, a large undeveloped site elsewhere in the Sacramento County region would be needed that could be reasonably obtained, used, expanded, or managed. Two off-site alternative locations were determined within the Urban Services Boundary (USB) after consultation with Dave Pevney, Senior Planner with the County (Pevney, pers. comm., 2004), about locations of tracts of uncommitted land large enough to accommodate the project; see Exhibits 2-20 and 2-21.

Policy LU 81 of the County General Plan provides very limited conditions under which the County can expand the USB, which would be necessary if the proposed project were constructed in an off-site location anywhere other than on lands south of Kiefer Boulevard, east of the North Vineyard Station and Vineyard Springs areas, and northwest of Grant Line Road. When considering such a proposal, the County must make several findings, including a finding that there is insufficient land within the USB to accommodate the project’s 20-year demand for urban uses. If all of the criteria are not met, the County Board of Supervisors must approve moving the USB by a 4/5 vote. Since enactment of this policy in 1993, the board has never approved consideration of an application for any project of even a moderate size outside the USB.

The identification of off-site alternative locations was limited to those locations that could satisfy certain criteria. First, as discussed above, the geographic area for off-site alternatives was limited to areas within the USB. In addition to the policy reasons discussed above, the USB was chosen as an appropriate geographic boundary because locating the project outside of the USB would require a massive expansion of infrastructure that is not currently planned.

Next, consideration of off-site alternatives was limited to areas along major transportation corridors. This criterion was established to implement key project needs and objectives. As discussed below in Section 2.10, the project’s retail component is an essential aspect of the project. A study prepared by Wes Ervin of Applied Development Economics confirms that a location along a major arterial, preferably adjacent to a freeway, is essential for a retail project of this size.

Furthermore, consideration of off-site alternatives was limited to areas encompassing a size similar to the project site (3,000–3,800 acres).

The primary obstacle in identifying an off-site alternative that otherwise satisfies the primary criteria discussed above is aggregating enough parcels to create a project of an adequate size. The project applicant(s) have identified several geographical areas within the USB and along major transportation corridors, but each of those geographical areas is divided by many different parcels (from about 20 parcels to more than 80 parcels). It is infeasible to aggregate that number of parcels to create a project of a sufficient size. Therefore, the two off-site alternatives discussed below are representative of ways in which the uncommitted land south of Kiefer Boulevard, east of the North Vineyard Station and Vineyard Springs areas, and northwest of Grant Line Road could be configured to accommodate the proposed development.

The proposed Rio del Oro project site represents the only available major undeveloped land area in Rancho Cordova that is capable of providing substantial job opportunities and a mix of uses, and that would fulfill the project applicant(s)' and the City's CEQA project purpose and attain most of the basic project objectives. The balance of undeveloped land in Rancho Cordova is currently undergoing project level planning for separate projects (e.g., Sunrise Douglas Community Specific Plan, Mather Field Redevelopment, Easton Planning Area, SunCreek Specific Plan area). Therefore, alternative locations for the proposed Rio del Oro project inside Rancho Cordova are not available. Furthermore, although large areas of undeveloped land outside and south of Rancho Cordova have development potential, development outside of the City's corporate boundaries would not attain basic CEQA objectives such as providing employment and housing opportunities in Rancho Cordova what conformed the Urban Policy Area boundary to past land use decisions that already designated the property for urban development.

## **2.8.1 QUALITATIVE IMPACT ASSESSMENT**

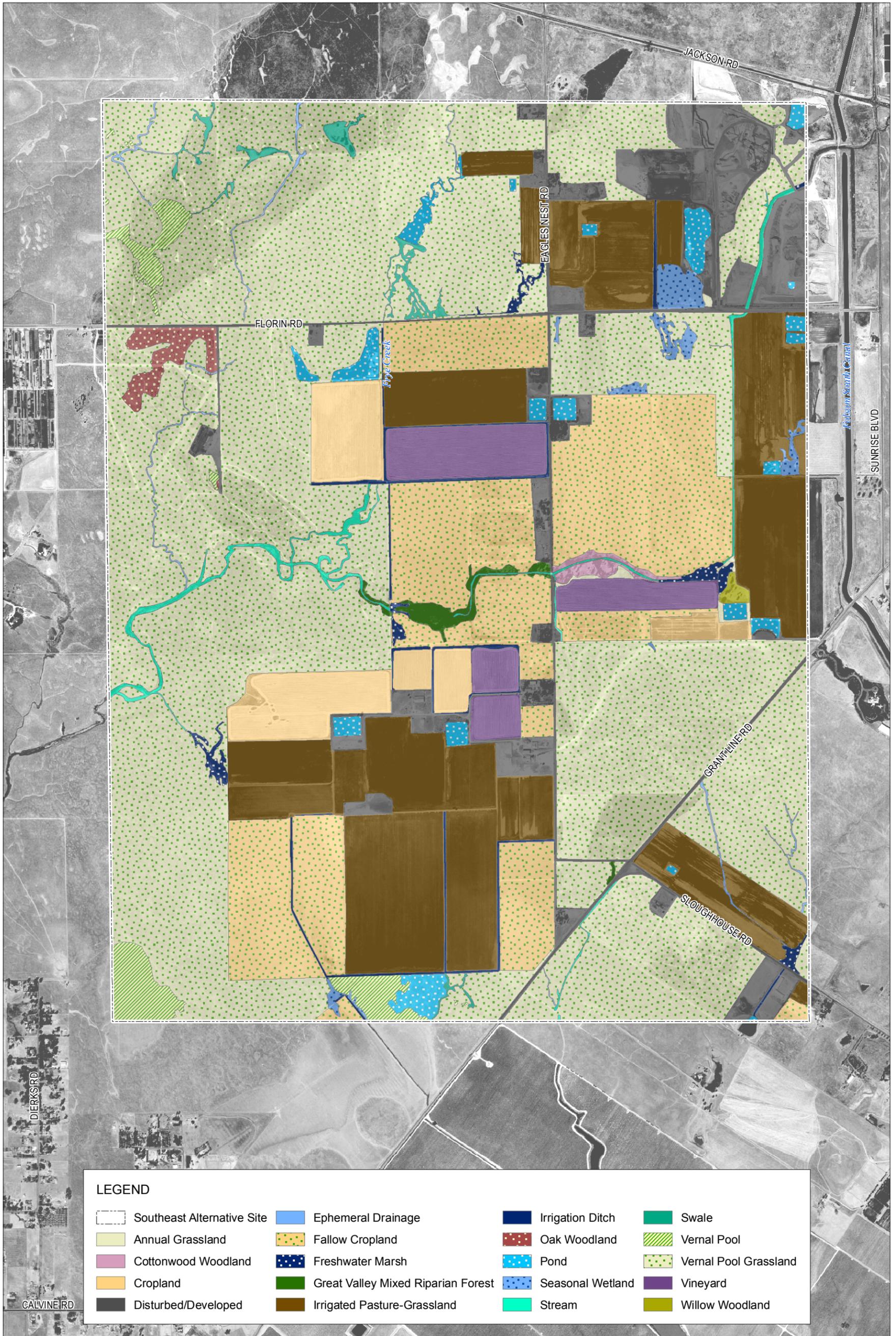
For biological resources, the analysis of the off-site locations in this DEIR/DEIS was based on:

- ▶ searches of the California Native Plant Society's (CNPS's) electronic database and the California Natural Diversity Database (CNDDDB),
- ▶ review and interpretation of aerial photographs of the sites,
- ▶ EDAW biologists' knowledge of biological resources occurring in the vicinity of the project site, and
- ▶ review of relevant literature.

Exhibits 2-20 and 2-21 show the location of natural communities at the two off-site alternative locations. For consistency reasons, habitats were initially mapped on aerial photographs at a scale of 1 inch = 400 feet, the same scale that was used for mapping habitats at the project site. The natural community types were then digitized and quantified. Tables 2-13 and 2-14 show the extent of natural communities present at the off-site alternative locations.

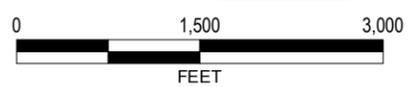
## **2.8.2 SUMMARY**

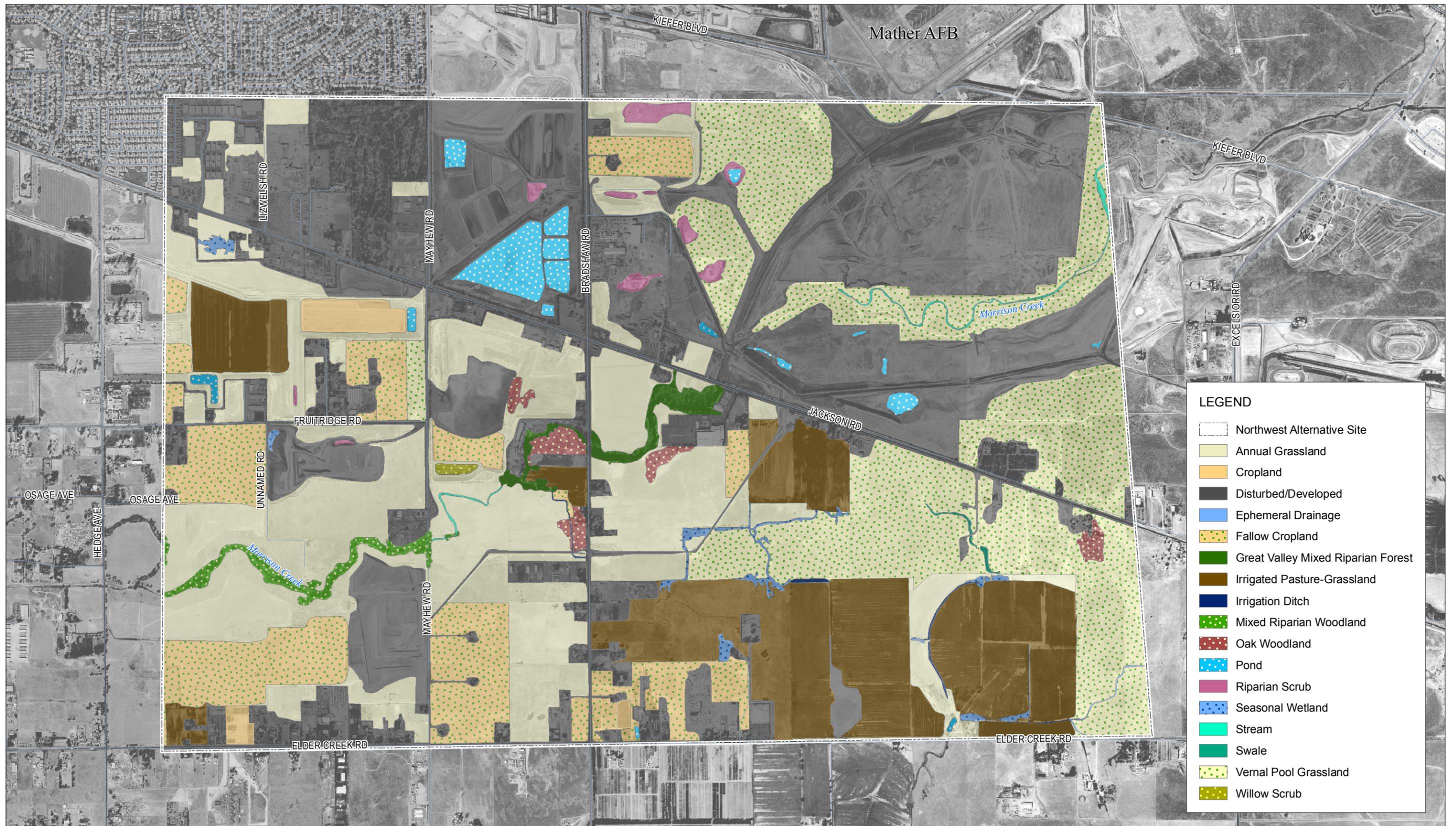
In addition to the natural community types listed below in Tables 2-13 and 2-14, the northwest parcel contains approximately 3,823 acres, and the southeast parcel contains approximately 3,833 acres, of developed and disturbed areas including high- and low-density residential and commercial development, and cleared and graded areas.



Source: EDAW 2005, Sacramento County 2002

Habitat Types at the Off-Site Alternative - Southeast Site



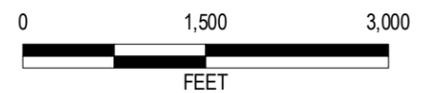


Sources: EDAW 2005, Sacramento County 2002

### Habitat Types at the Off-Site Alternative - Northwest Site

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE

X 3T089.01 5/06



<b>Table 2-13</b>	
<b>Natural Community Types at the Southeast Off-Site Alternative Location</b>	
Community Type	Acreage <sup>3</sup>
Annual grassland	4.17
Cottonwood woodland	9.58
Cropland <sup>1</sup>	133.40
Disturbed/developed	276.72
Seasonal drainages	10.35
Fallow cropland <sup>1</sup>	534.79
Freshwater marsh	16.33
Great Valley mixed riparian forest	14.66
Irrigated ditch	27.16
Irrigated pasture—grassland <sup>1</sup>	604.95
Oak woodland	20.33
Pond	59.26
Stream	27.10
Swale	16.72
Vernal pool	54.79
Vernal pool grassland <sup>2</sup>	1,892.16
Vineyard <sup>1</sup>	102.99
Willow woodland	3.44
<b>Total</b>	<b>3,833.01</b>
<sup>1</sup> No delineation of waters of the United States that would enable quantification of an exact acreage of vernal pools in the study area for the off-site alternative locations was conducted for this analysis. <sup>2</sup> Community types not present on the project site. <sup>3</sup> Acreages are not exact because the numbers have been rounded to the nearest tenth of an acre. Source: Data compiled by EDAW in 2005	

<b>Table 2-14</b>	
<b>Natural Community Types at the Northwest Off-Site Alternative Location</b>	
Community Type	Acreage <sup>1</sup>
Annual grassland	776.26
Cropland <sup>2</sup>	29.55
Disturbed/developed	1,504.40
Seasonal drainages	0.87
Fallow cropland <sup>2</sup>	307.40
Great Valley mixed riparian forest	24.94
Irrigated ditch	3.81
Irrigated pasture—grassland <sup>2</sup>	433.41
Mixed riparian woodland	22.62
Oak woodland	23.51
Pond	51.44
Riparian scrub	19.32
Stream	5.61
Swale	1.65
Vernal pool grassland <sup>3</sup>	599.98
Willow scrub	2.42
<b>Total</b>	<b>3,823.35</b>
<sup>1</sup> Acreages are not exact because the numbers have been rounded to the nearest tenth of an acre. <sup>2</sup> No delineation of waters of the United States that would enable quantification of an exact acreage of vernal pools in the study area for the off-site alternative locations was conducted for this analysis. <sup>3</sup> Community types not present on the project site. Source: Data compiled by EDAW in 2005	

## **SENSITIVE NATURAL COMMUNITIES**

The vernal pools scattered throughout the vernal pool grassland habitat, as well as the freshwater marsh, seasonal drainages, the pond, streams, mixed riparian forest, mixed riparian woodland, and mixed riparian scrub would all be considered sensitive natural communities, some of which are subject to USACE jurisdiction under Section 404 of the Clean Water Act, Central Valley Regional Water Quality Board jurisdiction under the Porter-Cologne Act, and/or California Department of Fish and Game jurisdiction under Section 1602 of the California Fish and Game Code.

## **SPECIAL-STATUS SPECIES**

The off-site alternative locations are situated within the Sloughhouse, Elk Grove, and Carmichael Quadrangles, which were included in the database search for the Proposed Project Alternative site. To account for species documented in adjacent areas, EDAW biologists also conducted CNDDDB and CNPS electronic database searches for the Galt, Clay, and Goose Creek Quadrangles. Results of the database searches were then used to compare the potential for special-status species to occur at the off-site alternative site locations with the potential for them to occur at the project site.

### **Special-Status Plant Species**

All of the same special-status plant species that are known from or have potential to occur on the project site also have potential to occur on the off-site alternative site locations because most of these species are associated with vernal pool habitat (which is present at all three locations). In addition, one special-status plant species, Sanford's arrowhead (CNPS 1B), could potentially occur at the off-site alternative site locations because there are streams/creeks and open-water habitat that could support marsh vegetation.

### **Special-Status Wildlife Species**

The off-site alternative site locations contain vernal pool grassland and could potentially support the same vernal pool invertebrates as the project site. Because the analysis of the off-site locations is based on interpretation of aerial photographs, it is unknown whether elderberry shrubs are present that could support valley elderberry longhorn beetle. However, the off-site locations contain several types of riparian habitat that could include elderberry shrubs. All of the special-status species associated with grassland, wetland, riparian, and oak woodland habitat that are known from or have potential to occur at the project site also could occur at the off-site alternative location sites because the same habitat types are present. In addition, the off-site alternative sites could provide suitable habitat for giant garter snake because they contain streams/creeks and open-water habitats that could support freshwater marsh vegetation. Giant garter snake is considered unlikely at the project site because of lack of suitable habitat.

The database searches of the additional quadrangles also revealed previously documented occurrences of golden eagle, great egret, and great blue heron rookeries in areas adjacent to those occupied by the off-site alternative site locations. These species are unlikely to occur at the project site because of the lack of suitable habitat.

## **2.8.3 IMPACTS**

Development of the off-site alternative sites would be expected to result in significant adverse effects on common and sensitive natural communities and special-status species. Species and communities affected would be similar to those affected at the proposed project site; however, the acreages affected by community differ (see Tables 2-13 and 2-14 above).

In addition, development at the two known sites of substantially similar size (the project site is more than 3,800 acres) within the County USB would be expected to result in environmental impacts (related to traffic, biological

resources, air quality, noise, etc.) similar to those of the proposed Rio del Oro project. Undeveloped areas in the region are used primarily for agriculture, the region is experiencing substantial growth in traffic, and it is in nonattainment of air quality standards. Consequently, any major development in Sacramento County would be expected to generate significant agricultural, traffic, and air quality impacts, and any development that adds significant levels of traffic to regional roadways would contribute to substantial noise levels. Although the Rio del Oro project site contains sensitive biological resources (including vernal pools), the alternative sites also contain protected wetlands; thus, similar impacts on biological resources would result on the alternative project sites. In addition, the alternative sites would be more distant than the proposed Rio del Oro project from freeways and urban areas, requiring construction of additional on- and off-site utility and transportation infrastructure to serve the alternative sites.

Given the above, while there may be other land combinations in the vicinity of the two sites identified above that are both within Sacramento County and within the USB, there are no known alternative sites that would reduce the significant impacts of the project, and there are no feasible alternative sites that can meet the Rio del Oro CEQA project objectives. For this reason, an off-site alternative is not evaluated further in this DEIR/DEIS.

## **2.9 REDUCED PRESERVE ALTERNATIVE**

This alternative would result in complete development of all 3,828 acres at the project site. All of the vernal pools, seasonal wetlands, swales, ponds, and seasonal drainages (56.63 acres) would be filled, and the entire length of Morrison Creek through the project site would be piped underground. Although none of the site's existing wetland features would be preserved, some form of off-site mitigation would be provided.

Implementation of this alternative would meet all of the stated CEQA project purposes and needs, but it would not meet the Section 404(b)(1) Guidelines, which require impact minimization and avoidance; thus, it was eliminated from further detailed study.

## **2.10 INCREASED PRESERVE/NO REGIONAL TOWN CENTER ALTERNATIVE**

This alternative would increase the amount of wetland preserve (as compared to the Proposed Project Alternative) by 599 acres, for a total of 1,106 acres. The area south of Rio del Oro Parkway and north of the proposed drainage parkway (near the corner of Sunrise Boulevard and Douglas Road) would be included in the preserve boundary, but all other land uses would remain the same as under the Proposed Project Alternative.

An alternative location for the 76-acre proposed retail and commercial development in the southwestern portion of the project site (proposed Regional Town Center) was examined by an independent land planning group (LPA Sacramento, Inc.). This location would be north of Rio del Oro Parkway and east of Sunrise Boulevard. The findings of this study (Chase, pers. comm., 2006) are summarized below:

- ▶ Maximum visibility from a motorist's perspective is imperative for a successful retail development. In general, the length of street frontage should exceed the depth of the site. If this does not occur, some of the retailers, restaurants, and other businesses will not be seen by motorists, and business will suffer accordingly.
- ▶ A maximum number of vehicular access points are important for a major retail center to appropriately distribute traffic and avoid long wait times into and out of the facility.
- ▶ The Regional Town Center location as shown under the proposed project provides for multiple vehicular access points along two major thoroughfares, Sunrise Boulevard and Douglas Road, with additional secondary access from Rio del Oro Parkway. The street frontage for this site is roughly four times the depth of the site. This is a good proportion of street frontage to retail development for a site of this size and assures

that the majority of uses are visible from the major thoroughfares, thus providing for a financially viable retail center that will attract a credible developer and desirable retail businesses.

- ▶ The alternative Regional Town Center location north of Rio del Oro Parkway and east of Sunrise Boulevard would only allow vehicular access from one major thoroughfare, Sunrise Boulevard (not Douglas Road), and secondary access from Rio del Oro Parkway. The approximate frontage along major thoroughfares would be reduced to only 800 feet, as compared to 3,100 feet under the proposed project. This alternative would result in 2,500–3,000 feet of roadway frontage along a secondary street, Rio del Oro Parkway, the opposite of the way in which a viable major retail center should be sited. Because this location would substantially reduce visibility from major thoroughfares, it would make it extremely difficult to find a qualified real estate developer and desirable retail businesses. Furthermore, assuming that the Rio del Oro Parkway/Sunrise Boulevard intersection would be signalized, it is highly unlikely that the City would allow full-turning movement access along Sunrise Boulevard, resulting in long traffic backups to access the retail site.
- ▶ Finally, if the Regional Town Center were constructed in the alternative location, that would displace the residential housing currently planned for that location. Relocating the residential housing to the corner of Sunrise Boulevard and Douglas Road, which is a major intersection, would not be appropriate because of the amount of vehicular traffic noise. Reducing the noise to acceptable levels as required by the City’s General Plan would require approximately 3,000 feet of continuous masonry sound wall; even with the sound wall, there would still be a substantial portion of this residential development that would be subjected to traffic noise from a major intersection, which would make these units more difficult to sell, in addition to a less than aesthetically pleasing appearance along both major thoroughfares. Because residential housing cannot be located within the Mather Airport noise contours in the northwestern portion of the project site, the office/business park uses must remain where they are under the proposed project, and cannot be relocated to this southwestern corner of the project site.

Therefore, for the reasons summarized above, under this alternative, the 76 acres of proposal retail and commercial development (proposed Regional Town Center) at the corner of Douglas Road and Sunrise Boulevard would not be constructed.

Implementation of the Increased Preserve/No Regional Town Center Alternative would result in the placement of fill material into 11.22 acres of waters of the United States (ECORP 2005), as well as partial fill of five drainage swale features (1.61 acres).

This alternative would have a negative impact on the ability of the City and other public agencies to meet funding needs for regional public infrastructure. For instance, according to an analysis prepared by Economic Planning Systems (EPS), this alternative would reduce the City’s roadway funding by \$53 million compared with the Proposed Project Alternative. These funds were identified after numerous technical studies as necessary for the City to achieve a functioning transportation network and minimize worsening congestion in the Sunrise Boulevard corridor.

This alternative would also reduce or shift \$9.0 million in funding for the City’s museum, library, new policy building, Proposed Project Alternative. In addition, if this alternative were implemented, \$10 million for regional parks and \$1.3 million for transit would not be paid into funds set up to construct these important public facilities, again Proposed Project Alternative. The loss of these development impact fees could require a scaling back of the City’s vision for added community amenities. Therefore, the City could have difficulty funding the planned regional parks, transit improvements, library, and museum facilities, to which the City’s capital improvement program would have dedicated the fee revenue from this alternative.

This alternative would shift significant costs related to sewer trunk line costs (shared-capital item between subdivisions outside of the Rio del Oro project) to a much smaller amount of development. The result would be that each individual home, apartment, or square foot of commercial or industrial space that is built would have to

bear a much larger amount of costs, with the resultant potentially undesirable planning impacts and higher cost of housing and commercial and industrial space.

Although implementation of this alternative would likely satisfy the USACE NEPA Section 404(b)(1) Guidelines, it was eliminated from further detailed study because it would not achieve the key CEQA project objectives (listed in Chapter 1, “Introduction and Statement of Purpose and Need”) and thus would not be approved by the City.

## 2.11 SIGNIFICANT TRAFFIC IMPACT AVOIDANCE ALTERNATIVE

Fehr & Peers Transportation Consultants (Fehr & Peers) conducted an analysis of cumulative (year 2030) conditions to determine what percent reduction in project development would be required to substantially reduce significant impacts on area roadway segments. As shown in Table 2-15, a 70% reduction in development would be required to eliminate the majority of impacts, primarily significant impacts on U.S. 50. A certain level of development is required to, at a minimum, finance necessary infrastructure. Under an alternative based on this reduction, there would be too few housing, commercial, and industrial units to pay for necessary infrastructure, with the result that financially the project would not be able to proceed. Therefore, this alternative was eliminated from further consideration.

<b>Table 2-15 Roadway Segment Significant Impacts—Cumulative (Year 2030) Conditions</b>						
Roadway Segment	Percent Development Reduction Necessary to Avoid Impacts <sup>1</sup>					
	20%	30%	40%	50%	60%	70%
Zinfandel Drive—U.S. 50 eastbound ramps to White Rock Road	✓	✓	✓	✓	✓	✓
Sunrise Boulevard—Gold Country Boulevard to Coloma Road	✓	✓	✓	✓	✓	✓
Sunrise Boulevard—Coloma Road to U.S. 50 westbound ramps	✓	✓	✓	✓	✓	✓
Sunrise Boulevard—U.S. 50 eastbound ramps to Folsom Boulevard	✓	✓	✓	✓	✓	✓
Sunrise Boulevard—Folsom Boulevard to White Rock Road						
Sunrise Boulevard—White Rock Road to Douglas Road	✓					
Sunrise Boulevard—State Route 16 to Grant Line Road	✓	✓	✓	✓	✓	✓
Hazel Avenue—Winding Way to U.S. 50 westbound ramps	✓	✓	✓	✓	✓	✓
U.S. 50—Mather Field Road to Zinfandel Drive	✓	✓	✓			
U.S. 50—Sunrise Reliever to Hazel Avenue	✓	✓	✓	✓	✓	
U.S. 50—Hazel Avenue to Folsom Boulevard	✓	✓	✓	✓	✓	
Douglas Road—Sunrise Boulevard to Jaeger Road	✓	✓				
Kiefer Boulevard—Sunrise Boulevard to Jaeger Road						
Sunrise Boulevard—Douglas Road to Chrysanthy Boulevard	✓	✓	✓	✓	✓	
Sunrise Boulevard—Chrysanthy Boulevard to Kiefer Boulevard	✓	✓	✓	✓	✓	
Sunrise Boulevard—Kiefer Boulevard to State Route 16	✓	✓	✓	✓	✓	✓
Sunrise Reliever—U.S. 50 to Easton Valley Parkway	✓	✓	✓	✓	✓	✓
Sunrise Reliever—Easton Valley Parkway to White Rock Road	✓	✓	✓	✓	✓	✓
Jaeger Road—Douglas Road to Pyramid Boulevard	✓	✓	✓	✓	✓	✓
<b>Total Number of Impacts</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>13</b>	<b>13</b>	<b>9</b>
Note: <sup>1</sup> Each check mark represents a significant impact. Source: Fehr & Peers 2005						

## 2.12 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines require identification of an environmentally superior alternative from among the proposed project and the alternatives evaluated. If the No Project Alternative is environmentally superior, CEQA requires identification of the “environmentally superior alternative” other than the No Project Alternative from among the proposed project and the alternatives evaluated. Federal NEPA guidelines also recommend that an environmentally preferred alternative be identified; however, under NEPA, that alternative does not need to be identified until the final Record of Decision is published. Therefore, the discussion in this section of the environmentally superior alternative is intended to satisfy only the state CEQA requirements.

Table 2-16 provides a comparison of some of the project characteristics between the Proposed Project Alternative and the other three action alternatives (High Density, Impact Minimization, and No Federal Action).

Project Characteristics	Alternative			
	Proposed Project	High Density	Impact Minimization	No Federal Action
Population (Number of Residents)	31,671	42,282	28,828	29,388
Residential Development				
Total Acreage	1,920	1,950	1,447	1,772
Total Units	11,601	15,488	10,568	10,765
Commercial Development				
Total Acreage	521	521	493	431
Employment (Number of Jobs)	18,318	18,318	17,517	17,500
Wetlands Filled (acres)	30.3 jurisdictional 12.9 nonjurisdictional	30.3 jurisdictional 12.9 nonjurisdictional	13.5 jurisdictional 12.9 nonjurisdictional	0 jurisdictional 12.9 nonjurisdictional
Acreage of Designated “Wetland Preserve”	507	507	994.5	835
Acreage of Existing Wetland Preserved	26.3	26.3	43.1	56.6
Sufficiency of Parkland (acres)	12-acre surplus	41-acre shortfall	25-acre surplus	37-acre surplus
Water Consumption (acre-feet per year)	8,888	9,245	7,370	8,015
Sources: ECORP Consulting 2005, data compiled by EDAW in 2006				

Table 2-17 shows the overall level of significance for each issue area, and provides a comparison of CEQA significance determinations among the four action alternatives and the No Project Alternative for each of the 16 environmental issues evaluated in this DEIR/DEIS.

Based on the conclusions in Table 2-17, the No Project Alternative would have the fewest environmental impacts and therefore would be the environmentally superior alternative under CEQA. CEQA requires that if the No Project Alternative is determined to be environmentally superior, the EIR must also identify the environmentally superior alternative among the other alternatives.

The No Federal Action Alternative would prohibit development on or within 50 feet of a jurisdictional wetland; as a result, certain residential and commercial areas would not be built under this alternative, a number of roads would not be constructed, and utilities in certain portions of the project site would be installed using jack-and-bore or horizontal directional drilling techniques. This alternative would result in potentially significant impacts related to land use, drainage, hydrology, and water quality, which are greater than impacts that would occur under the other three action alternatives. While this alternative would reduce direct impacts on some biological resources such as vernal pools, the No Federal Action Alternative would not avoid indirect, potentially

significant, and significant impacts related to biological resources. This alternative would also result in more significant and unavoidable traffic and transportation impacts than would occur under the other three action alternatives. Therefore, among the four action alternatives, the No Federal Action Alternative would have the greatest level of adverse impacts on the environment.

**Table 2-17  
Comparison of Impacts of the Proposed Project After Mitigation Implementation to Those of the Alternatives Under Consideration<sup>1</sup>**

Environmental Issue	Alternative				
	Proposed Project	High Density	Impact Minimization	No Federal Action	No Project
Land Use and Agriculture	LTS	LTS	LTS	PS	NI
Population, Employment, and Housing	LTS	LTS	LTS	LTS	NI
Environmental Justice	LTS	LTS	LTS	LTS	NI
Drainage, Hydrology, and Water Quality	LTS	LTS	LTS	PS	NI
Utilities and Service Systems	LTS	LTS	LTS	LTS	NI
Public Services	LTS	LTS	LTS	LTS	NI
Geology, Soils, and Mineral Resources	PS	PS	PS	PS	NI
Paleontological Resources	LTS	LTS	LTS	LTS	NI
Cultural Resources	PS	PS	PS	PS	NI
Biological Resources	S	S	S	S	NI
Visual Resources	S	S	S	S	NI
Parks and Recreation	NI	S	NI	B	NI
Hazards and Hazardous Materials	PS	PS	PS	PS	NI
Traffic and Transportation	S	S	S	SU	NI
Air Quality	S	S	S	S	NI
Noise	PS	PS	PS	PS	NI

Notes: LTS = less than significant, NI = no impact, PS = potentially significant, S = significant, SU = significant and unavoidable, B = Beneficial

<sup>1</sup> The overall impact conclusion for each issue area for each alternative was determined as follows: Separate tables were created for each issue area, and within each alternative, the number of each of the significance conclusions (LTS, PS, S, or NI) before the implementation of mitigation measures was added up and totaled. The significance conclusion that occurred the greatest number of times within each issue area was determined to be the overall impact conclusion for that alternative. For example, if there were four impacts determined to be LTS and two impacts determined to be PS, the impact conclusion would be LTS. In cases where the numbers were the same (i.e., two impacts determined to be LTS and two impacts determined to be PS), the more severe impact was used; in the case of this example, it would be PS.

Source: Data compiled by EDAW in 2006

Under the High Density Alternative, the project would be constructed at a higher level of intensity consistent with the SACOG Sacramento Region Blueprint. This alternative would provide certain long-term benefits to the environment by locating a higher density of residential housing in the same mixed-use community where job opportunities would be provided, thus reducing development pressure on other undeveloped lands in the surrounding area. However, in general, the High Density Alternative would have a greater level of impacts on the environment than the Proposed Project Alternative or the Impact Minimization Alternative because land would be

developed at a higher level of intensity; thus, more residential housing, retail and commercial development, roadways, schools, fire and police services, and demand for water, sewer, and other infrastructure would be necessary, and a greater level of impacts to biological resources would occur. However, by using land more efficiently in dealing with projected long-term population increases in the greater Sacramento region, the High Density Alternative, when compared to the Proposed Project Alternative, could lead to the preservation of approximately 500 more acres of land that would otherwise be lost to development over time; it would also provide 3,887 additional residential units. This long-term avoidance of development would likely have the effect of reducing impacts that would otherwise occur with a more traditional, lower density footprint.

The Impact Minimization Alternative would have a lesser level of impacts on the environment than any of the other action alternatives, including the Proposed Project Alternative, because nearly 500 fewer acres of land would be developed, which would be made part of a managed wetland preserve, and the land would be developed a lower level of intensity. Although impacts would still be significant, this alternative would result in the lowest level of significant impacts among the four action alternatives related to demand for water and wastewater infrastructure; construction-related erosion; loss and degradation of jurisdictional wetlands and other waters of the United States, riparian habitat, special-status wildlife, special-status plants, and associated habitat; degradation of visual character and new skyglow and light and glare effects; increases to traffic volumes and temporary obstruction of roadways during construction; generation of short-term and long-term pollutant emissions; and exposure to on-site and off-site noise sources.

Although both the High Density and Impact Minimization Alternatives would preserve approximately 500 acres of land, the Impact Minimization Alternative would be developed at a lesser intensity than the High Density Alternative and would thus result in less of an impact on the environment overall.

Thus, among the four action alternatives carried forward for analysis in this DEIR/DEIS, the Impact Minimization Alternative would be the environmentally superior alternative for CEQA purposes.

# 3 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

## 3.0 APPROACH TO THE ENVIRONMENTAL ANALYSIS

### 3.0.1 INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) require the environmental analysis for an environmental impact report (EIR) to include an evaluation of potentially significant effects on the environment associated with the project and to identify feasible mitigation for those effects. All phases of a proposed project, including planning, acquisition, development, and operation, are evaluated in the analysis. California Code of Regulations (CCR) Title 14, Section 15126.2 (14 CCR Section 15126.2) states that:

*An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, and human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected.*

An EIR must also discuss inconsistencies between the proposed project and applicable general plans and regional plans (14 CCR Section 15125[d]).

According to 14 CCR Section 15126.4, an EIR must describe potentially feasible measures that could minimize significant adverse impacts (Section 15126.4[a][1]) and measures that are fully enforceable through permit conditions, agreements, or other legally binding process (Section 15126.4[a][2]). Mitigation measures are not required for effects that are found to be less than significant.

The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) (the “NEPA regulations”) specify that a federal agency preparing an environmental impact statement (EIS) must consider the effects of the proposed action and alternatives under consideration on the environment; these include effects on ecological, aesthetic, and historical and cultural resources, and economic, social, and health effects (defined below). An EIS must also discuss possible conflicts with the objectives of federal, state, regional, and local land use plans, policies, or controls for the area concerned; energy requirements and conservation potential; urban quality; the relationship between short-term uses of the environment and long-term productivity; and irreversible or irretrievable commitments of resources. An EIS must identify relevant, reasonable mitigation measures that are not already included in the proposed action or alternatives under consideration that could avoid, minimize, rectify, reduce, eliminate, or compensate for the project’s adverse environmental effects (40 Code of Federal Regulations [CFR] 1502.14, 1502.16, 1508.8).

This draft document is known as a draft EIR/EIS (DEIR/DEIS). The following discussion introduces Chapter 3 of this DEIR/DEIS, which addresses the affected environment, environmental consequences, and mitigation measures for each environmental issue area, and explains the organization and general assumptions used in the

analysis. The reader is referred to the individual technical sections regarding specific assumptions and methodology and significance criteria (thresholds of significance) used in the analysis and determination of significance of impacts.

Sections 3.1 through 3.16 of this DEIR/DEIS present a discussion of existing conditions, environmental impacts associated with implementation of the proposed project and alternatives under consideration, mitigation measures to avoid or reduce the level of impact, and residual significant impacts (i.e., impacts that would be significant and unavoidable despite the imposition of feasible mitigation measures). Issues evaluated in these sections consist of a full range of environmental topics originally identified for review in the notice of preparation (NOP) prepared under CEQA requirements for the project and identified in scoping comments on the NOP and notice of intent (NOI), as required under NEPA. The NOP and NOI are included within the scoping report prepared for the project (Appendix B). Sections 3.1–3.16 each include the components described below.

### **3.0.2 SECTION CONTENTS AND DEFINITION OF TERMS**

The environmental setting, impacts, and mitigation measures required by CEQA have been prepared using NEPA terminology (e.g., affected environment, environmental consequences, and mitigation measures). This chapter is organized by issue area, generally corresponding to topics in the CEQA Environmental Checklist (State CEQA Guidelines Appendix G, as amended), with the addition of “Environmental Justice,” which is required in the NEPA analysis pursuant to Presidential Executive Order 12898. As described below, each section follows the same format.

#### **AFFECTED ENVIRONMENT**

The “Affected Environment” subsection provides an overview of the baseline physical environmental conditions (i.e., the environmental baseline) on the project site and surrounding area as appropriate, in accordance with NEPA regulations (40 CFR 1502.10) and 14 CCR Section 15125, at the time the NOP was published on December 12, 2003. The State CEQA Guidelines also specify that the description of the physical environmental conditions at the time of the NOP is normally to serve as the baseline physical condition by which a lead agency determines whether impacts of a project are considered significant.

The baseline environmental conditions assumed in this DEIR/DEIS consist of existing conditions at the time the NOP was published (prior to removal of dredge tailings at the project site), with recognition that since publication of the NOP, Conditional Use Permits have been approved to remove the existing piles of dredge tailings from the project site, and that approval of other such permits is pending. Currently, Teichert Aggregates, Inc. (Teichert) holds a County of Sacramento Conditional Use Permit (No. 98-UPB-0503) for surface mining on 180 acres of the eastern portion of the project site (City of Rancho Cordova 2004) (see Exhibit 2-19 in Chapter 2, “Alternatives”). In June 2005, the City of Rancho Cordova (City) approved a second Conditional Use Permit application by Teichert to remove portions of the dredge tailings on the western portion of the project site in the proposed Phase 1 development area. In the future, the City expects to receive an Implementation Permit application from Granite Construction Company to remove additional dredge tailings from the central portion of the Rio del Oro project site. The proposed removal of additional dredge tailings will be subject to separate environmental review (not part of this project).

Although NEPA permits the use of future conditions after the initiation and/or completion of ongoing activities as a potential baseline, the City and USACE chose to use the most conservative approach in this DEIR/DEIS analysis, which is existing site conditions at the time that the NOP was published (prior to removal of dredge tailings). In other words, this DEIR/DEIS could have analyzed the project’s potential effects as compared to a baseline environmental setting that included any changes made to the existing setting since December 12, 2003. Instead, this document treats the baseline as the setting before initiation of any mining activities that have resulted in a removal of aggregate material from the project site.

This approach is consistent with the State CEQA Guidelines (14 CCR Section 15125), which state that the description of the physical environmental conditions in the vicinity of the project, as they exist at the time that the NOP is published, is the environmental setting that will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. This approach also has the virtue of avoiding the potential confusion that might result from using different baselines for CEQA and NEPA purposes.

These pending and approved Conditional Use and Implementation Permits would result in an alteration of the expected baseline conditions at the time of Rio del Oro project construction. Approximately 70% of the project site is composed of mine tailings (piles of cobblestones laid down in rows) that have formed rolling ridges covered with vegetation (see exhibits in Section 3.11, “Visual Resources”). In certain areas, these dredge tailings form broad, green mounds that are up to 30 feet tall. Cottonwood trees, shrubs, and annual grasses are growing in the dredge tailings. Mining would occur in areas where no sensitive biological resources are present. If biological resources are present, no mining would occur within an established 250-foot buffer of the sensitive resources. The project site would radically change from low-lying tailings mounds to a flat landscape, except where sensitive biological resources are present. (See also “On-Site Mining Activities Under Existing [2005] and Future Baseline Conditions [No Project Alternative]” discussed in Chapter 2, “Alternatives.”)

As mentioned above, the environmental baseline is the context against which potential project impacts are evaluated.

## **REGULATORY FRAMEWORK**

The “Regulatory Framework” subsection identifies the plans, policies, laws, regulations, and ordinances that are relevant to each topical section and describes required permits and other approvals necessary to implement the project. As noted above, the EIR/EIS needs to address possible conflicts between the proposed action or alternatives under consideration and the objectives of federal, state, regional, or local formally adopted land use plans, policies, or controls for the area. Appendix F lists the relevant policies and objectives of the *Rancho Cordova General Plan* (City General Plan), as specified by City staff members.

Conflicts with any federal, state, or local formally adopted land use plans, policies, or controls for the area are considered appropriate topics under NEPA and must be addressed in the EIS (40 CFR 1502.16[c]). The City has analyzed the project for consistency with the policies of the City General Plan and standard City conditions of approval that are directly applicable to the project (see Appendix F). According to State CEQA Guidelines Section 15125(d), an EIR “shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans.” The final authority for interpreting policy statements and determining the project’s consistency with adopted policies rests with the City Council.

## **ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES**

The “Environmental Consequences and Mitigation Measures” subsection identifies the impacts of the project on the existing human and natural environment, in accordance with NEPA regulations (40 CFR 1502.16) and the State CEQA Guidelines (CCR Sections 15125 and 15143). The following discussions are included in this subsection.

- ▶ **Thresholds of Significance** provide criteria established by the lead agencies to define at what level an impact would be considered significant. Under CEQA, criteria are defined by a lead agency based on examples found in CEQA or the State CEQA Guidelines; scientific and factual data relative to the lead agency’s jurisdiction; regulatory performance standards of federal, state, regional, or local agencies; City goals, objectives, and policies (e.g., City General Plan); views of the public in the affected area; the policy/regulatory environment of affected jurisdictions; or other factors.

- ▶ **Analysis Methodology** describes the methods, process, procedures, and/or assumptions used to formulate and conduct the impact analysis.
- ▶ **Impact Analysis** provides an assessment of the potential impacts of the project (including off-site infrastructure improvements) and alternatives on the affected environment. This assessment also specifies why impacts are found to be significant and unavoidable, significant or potentially significant, or less than significant, or why there is no environmental impact. The program-level impact analysis, which covers the entire 3,828-acre specific plan area, is prepared in accordance with NEPA regulations (40 CFR 1500.4[i], 1502.4[b], and 1502.20) and the State CEQA Guidelines (CCR Sections 15152 and 15168). The project-level analysis is prepared in accordance with NEPA and the State CEQA Guidelines (14 CCR Section 15161); this level of impact analysis covers the 1,100-acre development Phase 1, including establishment of the wetland preserve for the entire specific plan area, to support the Department of the Army Section 404 permit under the federal Clean Water Act.
- ▶ **Project impacts** are organized under “Program Level Impacts and Mitigation Measures,” “Project-Level Impacts and Mitigation Measures,” and “Cumulative Impacts.” Project impacts are organized into three categories: direct, indirect, and cumulative impacts. Direct impacts are those that would be caused by the action and would occur at the same time and place. Indirect effects are reasonably foreseeable consequences that may occur at a later time, or at a distance that is removed from the project site. Examples of indirect effects include growth-inducing effects and other effects related to changes in land use patterns, population density, or growth rate, and related effects on the physical environment. A cumulative impact is an impact that would result from the incremental impact of the action when compounded with other past, present, and reasonably foreseeable future actions.

The impacts are listed numerically and sequentially throughout each section. For example, impacts in Section 3.3 are identified as 3.3-1, 3.3-2, and so on and are identified by the alternative that is applicable to the impact. For example, “PP” refers to the Proposed Project Alternative, “HD” refers to the High Density Alternative, “IM” refers to the Impact Minimization Alternative, “NF” refers to the No Federal Action Alternative, and “NP” refers to the No Project Alternative. An impact statement precedes the discussion of each impact and provides a summary of the impact. The discussion that follows the impact statement includes the evidence on which a conclusion is based regarding the level of impact. Impact conclusions are made using the significance criteria described above and include consideration of the “context” of the action and the “intensity” (severity) of its effects in accordance with NEPA guidance (40 CFR 1508.27).

The level of impact of the Proposed Project Alternative and alternatives under consideration is determined by comparing estimated effects with baseline conditions. Under CEQA, the environmental setting as it exists at the time the NOP is published (as defined above and as described in the “Affected Environment” sections of Chapter 3) normally represents baseline physical conditions. Under NEPA, the No Action Alternative (expected future conditions without the project) is the baseline against which the effects of a proposed action and action alternatives are compared. Although, in some instances, a NEPA “no action” scenario can involve significant anticipated changes to existing conditions based on actions taken by nonfederal parties, here the NEPA no action scenario is the same as the CEQA no project scenario. This approach, being conservative from an impact assessment standpoint, is permissible under NEPA and avoids any confusion that might be caused if this document used separate CEQA and NEPA baselines. Expected future conditions without the project are equivalent to no development. In this DEIR/DEIS, for all topics, conditions under the No Project Alternative are considered to be substantially equivalent to existing conditions, with the exception of the approved and pending mining applications to remove the dredge tailings.

- ▶ **Mitigation measures** to avoid, minimize, rectify, reduce, or compensate for significant and potentially significant impacts of the project, in accordance with the State CEQA Guidelines (14 CCR Sections 15002[1][a][3], 15021[a][2], and 15091[a][1]) and with NEPA regulations (40 CFR Part 1508, Section 20), where feasible, are recommended for each significant impact. Each mitigation measure is identified

numerically to correspond with the number of the impact being reduced by the measure. For example, Impact 3.3-1 would be mitigated by Mitigation Measure 3.3-1. Where no mitigation is required because the impact conclusion is “less than significant,” then the statement “no mitigation measures are required” is provided. Where no feasible mitigation is available to reduce impacts to a less-than-significant level, the impacts are identified as remaining “significant and unavoidable” and the statement “no mitigation measures are available” is provided with an explanation. Where no further mitigation is required because the mitigation would be carried out by another agency, as outlined in a previous certified CEQA document, then the statement “no further mitigation measures are required” is provided. Significant and unavoidable impacts are also summarized in Chapter 4, “Other Statutory Requirements,” under the subsection “Unavoidable Adverse Environmental Effects.”

- ▶ The **Residual Significant Impacts** subsection identifies any significant impacts that would still be significant even after implementation of the mitigation measures.

### 3.0.3 TERMINOLOGY USED TO DESCRIBE IMPACTS

#### IMPACT LEVELS

The EIR/EIS for the project uses the following terminology to denote the significance of environmental impacts of the project:

- ▶ **No impact** indicates that the construction, operation, and maintenance of the project would not have any direct or indirect effects on the environment. It means no change from existing conditions. This impact level does not need mitigation.
- ▶ A **less-than-significant impact** is one that would not result in a substantial or potentially substantial adverse change in the physical environment. This impact level does not require mitigation, even if feasible, under CEQA.
- ▶ A **significant impact** is defined by CEQA Section 21068 as one that would cause “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.” Levels of significance can vary by project, based on the change in the existing physical condition. This EIR/EIS uses the CEQA definition of significant impact because it is more stringent than that of NEPA. Under CEQA, mitigation measures or alternatives to the proposed project must be provided, where feasible, to reduce the magnitude of significant impacts.
- ▶ A **potentially significant impact** is one that, if it were to occur, would be considered a significant impact as described above; however, the occurrence of the impact cannot be immediately determined with certainty. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.
- ▶ A **significant and unavoidable impact** is one that would result in a substantial or potentially substantial adverse effect on the environment, and that could not be reduced to a less-than-significant level even with any feasible 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.
- ▶ A **beneficial impact** is an impact that is considered to cause a positive change or improvement in the environment and for which no mitigation measures are required.
- ▶ An impact may have a level of significance that is too uncertain to be reasonably determined, which would be designated **too speculative for meaningful evaluation**, in accordance with State CEQA Guidelines

Section 15145. Where some degree of evidence points to the reasonable potential for a significant effect, the DEIR/DEIS may explain that a determination of significance is uncertain, but is still assumed to be “potentially significant,” as described above. In other circumstances, after thorough investigation, the determination of significance may still be too speculative to be meaningful. This is an effect for which the degree of significance cannot be determined for specific reasons, such as because aspects of the impact itself are either unpredictable or the severity of consequences cannot be known at this time.

Two school impacts (Potential Land Use Conflict with California Department of Education Minimum Site Criteria for Siting the Proposed Elementary School and Proposed High School/Middle School) described in Section 3.1, “Land Use,” are assumed to be potentially significant because it is unclear whether further environmental review by the California Department of Education would identify potentially significant land use conflicts and mitigation measures. The level of significance of this impact cannot be adequately determined until Folsom-Cordova Unified School District conducts a separate, site-specific environmental review. CDE minimum site criteria identify various factors that must be considered in selecting a school site to protect the health and safety of students and staff. As described in more detail in this DEIR/DEIS, the designated elementary and middle school/high school sites would likely meet most of the minimum site criteria (e.g., proximity to high-voltage power lines, proximity to railroad tracks). However, factors such as the presence of aggregate mining operations east of the project site may require additional assessment based on CDE’s evaluation of the minimum site criteria.

## IMPACT MECHANISMS

Mechanisms that could cause impacts are discussed for each issue area. General categories of impact mechanisms are construction of the project and activities related to future operations, as described in Chapter 2, “Alternatives.”

If the project is approved, site work could begin as early as summer/fall 2007 and completion by 2014 depending on the timing of environmental and regulatory approvals and market conditions. The environmental analysis focuses on baseline at the time the NOP was published (2003), as updated to account for Conditional Use and Implementation Permits issued for mining activities (2005). The project is expected to be built out over 25–30 years, with Phase 1 buildout by 2014. For transportation and circulation, the environmental analysis also addresses a future baseline (2014) in which it is anticipated that major regional transportation improvements would be implemented (Appendix I). Project effects fall into the following three categories:

- ▶ A **temporary effect** would occur only during construction or demolition. The environmental analysis addresses potentially significant impacts from the direct effects of construction at the project site, including demolition of existing structures and buildings, direct effects associated with site development and required on- and off-site infrastructure improvements, and indirect construction impacts associated with the proposed construction staging areas, fill activities, and construction traffic. While the construction impact analysis is focused on development Phase 1, these impacts are also expected for subsequent development phases (2–5) of the project.
- ▶ A **short-term effect** would last from the time construction ceases to within 3 years following construction.
- ▶ A **long-term effect** would last longer than 3 years following construction. In some cases, a long-term effect could be considered a permanent effect.
- ▶ A **direct effect** is an effect that would be caused by an action and would occur at the same time and place as the action.
- ▶ An **indirect effect** is an effect that would be caused by an action but would occur later in time, or at another location, yet is reasonably foreseeable in the future.

In accordance with Public Resources Code Section 21081.6(a), the City Council, if it approves the project, will adopt a mitigation monitoring and reporting program (MMRP) at the time that it certifies the EIR. The City

Council will also be required to adopt findings identifying each significant effect of the project and the extent to which feasible mitigation measures have been adopted. (Public Resources Code Section 21081.) USACE will also issue a Record of Decision (ROD) that will reflect USACE's final decision, the rationale behind the decision, and a commitment to monitoring and mitigation. According to Section 1505.2 of the NEPA regulations adopted by the CEQ, the ROD must do all of the following:

- (a) State what the decision was.
- (b) Identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable. An agency may discuss preferences among alternatives based on relevant factors including economic and technical considerations and agency statutory missions. An agency shall identify and discuss all such factors including any essential considerations of national policy which were balanced by the agency in making its decision and state how those considerations entered into its decision.
- (c) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation. The purpose of the MMRP prepared under CEQA is to ensure that the mitigation measures adopted as part of project approval will be complied with when the project is implemented. The MMRP will identify each of the mitigation measures and describe the party responsible for monitoring, the timeframe for implementation, and the program for monitoring compliance.

The following terms are also used in the impact analysis:

- ▶ A **cumulative impact** is a project impact that is cumulatively considerable (and thus significant) when compounded with impacts from other past, present, and reasonably foreseeable future projects. A project's incremental effects are not "cumulatively considerable" solely because other projects would have a significant cumulative impact; rather, the project would also need to contribute considerably to worsening these impacts.
- ▶ **Construction** applies to activities associated with ground disturbance, construction of new structures and infrastructure, and the demolition of existing structures and buildings.
- ▶ **Preproject conditions** refers to conditions before construction, which is assumed to be land contoured at natural grade from removal of dredge tailings. It is assumed that more than 763 acres of the dredge tailings could be removed if all three Conditional Use and Implementation Permits are approved. Dredge tailings would not be removed within 250 feet of sensitive biological resources.
- ▶ **No mitigation measures are required** is stated in the discussion of mitigation if the impact is considered minimal or less than significant and does not require mitigation.
- ▶ **No feasible mitigation measures are available** is stated in the discussion of mitigation if the impact is considered significant and unavoidable, and there is no feasible mitigation available to reduce the magnitude of the impact to a less-than-significant level. Several times the phrase "**no mitigation measures are required/available**" is stated because the alternatives under consideration have different mitigation requirements. For example, an alternative under consideration may result in a significant impact that cannot be reduced to a less-than-significant level because no feasible mitigation measures are available, whereas the No Project Alternative may result in a less-than-significant impact where no mitigation is required. Because of these differing impact conclusions, the phrase "no mitigation measures are required/available" is stated.
- ▶ **No further mitigation measures are required** is stated in the discussion of mitigation if the responsibility for mitigation implementation will be carried out by an agency outlined in a previously certified CEQA document (separate from the project) and no further mitigation is required by project implementation.

## **3.1 LAND USE**

### **3.1.1 AFFECTED ENVIRONMENT**

The city limits of the City of Rancho Cordova (City) are located entirely within the eastern portion of Sacramento County, covering approximately 33.6 square miles. The City consists of a wide range of existing land uses, including approximately 2,600 acres of residential development, 454 acres of commercial/retail uses, 972 acres of office uses, and 835 acres of industrial uses. In addition, there are an estimated 12,888 acres of agricultural (vacant) uses and more than 296 acres of public/private recreation and natural-preserve uses. Institutional uses such as schools, churches, and other public entities also serve as major land uses.

#### **PROJECT SITE**

The Rio del Oro Specific Plan area (i.e., project site) consists of approximately 3,828 acres in Rancho Cordova. The project site is approximately 1 mile south of U.S. Highway 50 (U.S. 50) (see Exhibits 2-1 and 2-2). Irregularly shaped, the property is located south of White Rock Road, north of Douglas Road, and east of Sunrise Boulevard.

Currently, the project site is mostly undeveloped. Most of the project site is being used as pastureland for cattle grazing by the Clark Cattle Company. Aggregate mining operations are occurring in the eastern portion of the site. Buildings, structures, roads, and limited utility infrastructure are owned by the Aerojet General Corporation (Aerojet) and are located in the central and southern portions of the site.

Currently, Teichert Aggregates, Inc. (Teichert) holds a County of Sacramento (County) Conditional Use Permit (No. 98-UPB-0503) for surface mining on 180 acres of the eastern portion of the project site (City of Rancho Cordova 2004) (see Exhibit 2-18 in Chapter 2, "Alternatives"). In June 2005, the City approved a second Conditional Use Permit application by Teichert to remove approximately 583 acres of the dredge tailings on the western portion of the project site in the proposed Phase 1 development area. In the future, the City expects to receive a third Implementation Permit application from Granite Construction Company to remove additional dredge tailings from the central portion of the Rio del Oro project site. The City would prepare another, separate environmental document to assess potential impacts from this future application. Although the environmental impacts of the mining activities have been addressed in separate environmental documents, a brief summary of the analysis of impacts that would occur under continuing mining activities is provided in Table 2-14. Assuming that the City approves the remaining application, all aggregate resources at the project site except those containing sensitive biological resources would be removed under Conditional Use and Implementation Permits before Rio del Oro construction within each phase of development. It should be noted that the removal of aggregate from the project site by Teichert and Granite Construction would have independent functional utility absent approval of a specific plan and subsequent development of the project, and that this resource would be removed even if plans for site development were not imminent, or even ultimately approved.

#### **ADJACENT LAND USES**

Adjacent land uses are primarily a mix of urban, developing urban, and agricultural uses. Lands north of the project site are owned by Aerojet and are currently used for aerospace testing facilities and associated buffer lands. Aerojet land north of White Rock Road, approximately 1 mile from the project site and adjacent to U.S. 50, is proposed to be developed into three mixed-use communities, Easton Place and Glenborough in unincorporated Sacramento County and Westborough in Rancho Cordova, as part of the Easton Master Planned Community (Exhibit 4-1). This proposal is pending future environmental review and approval.

Land use immediately west of the project site consists of existing industrial park development along the Sunrise Boulevard corridor. West of Sunrise Boulevard, land uses are primarily office and light industrial, although housing associated with the Villages of Zinfandel and the Capital Village developments is located in this area as

well (Exhibit 4-1). Mather Field (formerly Mather Air Force Base [AFB]) is located approximately 2 miles west and southwest of the project site. After base closure, the Mather Airport Policy Area (MAPA) and Comprehensive Land Use Plan (CLUP) were developed to ensure compatibility of land uses within the runway approach pattern and in areas affected by aircraft noise (Mather Airport 1996). Current uses at Mather Field include air cargo carriers at Mather Airport, office and commercial uses at the Mather Commerce Center, Mather Regional Park, and single-family housing known as Independence at Mather. Additional commercial uses continue to be developed at Mather Field.

Lands east of the project site are undeveloped with the exception of the Teichert Grantline Quarry, which operates aggregate mining on the adjacent lands, roughly in the middle of the project site from north to south.

The Sunrise Douglas Community Plan/SunRidge Specific Plan areas are located immediately south and southeast of the project site (Exhibit 4-1). At full buildout, these areas will contain approximately 6,042 acres of mixed-use development. Development that will occur adjacent to the project site will contain mostly low-density residential units. The Security Park (an industrial park that is not part of the project site) is located in the adjacent southeastern corner. Agricultural land uses and the County (Kiefer) Landfill are located several miles southeast of the project site beyond the Sunrise Douglas Community Plan/SunRidge Specific Plan areas.

## **AGRICULTURAL RESOURCES SETTING**

Within Rancho Cordova there are an estimated 12,888 acres of agricultural (vacant) land uses, and existing agricultural activities consist of small areas of row crops, grazing lands, and orchards. However, the majority of this land is considered vacant or underutilized. Most of the area's farmland consists of nonnative annual grasslands and has historically been used for dry crop farming and cattle grazing. There are no major intensive agricultural operations (although small family farm activities do exist) that occur within the southern portion of Rancho Cordova, and few crops are grown within the city itself. (City of Rancho Cordova 2005a.)

As mentioned previously, most of the project site is being used as pastureland for cattle grazing by the Clark Cattle Company. The Important Farmland map for Sacramento County designates the project site as consisting of Grazing Land, Urban and Built-Up Land, and Other Lands (CDC 2002). A very small area, approximately 0.1 acre (40 square feet), in the southeast corner of the project site is designated as Farmland of Local Importance, but is too small to support economically viable agricultural activities. Grazing Land is described as "Existing vegetation that is suitable for grazing." Urban and Built-Up Land is described as "Land occupied by structures with a density of at least one dwelling unit per 1.5 acres." Other Lands are described as "Land that does not meet the criteria of the remaining categories." (CDC 2004.) The project site does not contain any designated "Prime Farmland," "Farmland of Statewide Importance," or "Unique Farmland" and none of the land at the project site is held under Williamson Act contracts.

### **3.1.2 REGULATORY FRAMEWORK**

#### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no federal plans, policies, regulations, or laws related to land use that are applicable to the proposed project or alternatives under consideration.

#### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

##### **State Planning and Zoning Laws**

Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's

judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Finally, although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

The State Zoning Law (Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure that the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code Section 65860[c]).

### **Local Agency Formation Commissions**

The Cortese-Knox-Hertzberg Act of 2000 (Government Code Section 56000 et seq.) establishes the process through which a local agency boundary change is made and associated planning authority is transferred from one local agency to another. The local agency formation commission (LAFCo) of each county oversees and approves such boundary changes. To encourage orderly growth, LAFCos establish a sphere of influence for each city and other local agencies. The sphere of influence is a county area that is subject to the planning influence of a city or another local agency because that agency has identified an intention to annex the area into its physical boundary and service area. The *Sacramento Local Agency Formation Commission Policies, Standards, and Procedures for LAFCos*, adopted September 5, 1990, amended May 5, 1993, include policies that:

- ▶ encourage orderly development,
- ▶ encourage the logical formation and determination of boundaries,
- ▶ ensure that affected populations receive efficient governmental services, and
- ▶ guide development away from open space and prime agricultural land uses unless such actions would not promote planned orderly and efficient development.

For the project, the Sacramento County LAFCo oversees the establishment or revision of boundaries for local municipalities and independent special districts.

### **California Department of Education School Siting Requirements**

The California Department of Education (CDE) School Facilities Planning Division (SFPD) has prepared a the *Guide to School Site Analysis and Development* (CDE 2000) that provides criteria for locating appropriate school sites in California. CDE's authority for approving proposed sites is contained in Education Code Section 17251 and in Title 5, Section 14010 of the California Code of Regulations (CCR). CDE's approval is a condition for school districts to receive state funds for the acquisition of sites under the state's School Facilities Program administered by the State Allocation Board. Districts using only local funds are still encouraged to seek CDE approval for the benefits that such outside review can provide.

School site and size recommendations were changed by CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

CDE provides specific recommendations for school size in the publication *Guide to School Site Analysis and Development* (CDE 2000). This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, CDE's SFPD may approve an amount of acreage less than the recommended gross site size and building-to-grounds ratio.

Certain health and safety requirements for school site selection are governed by state regulations. The policies of the SFPD relating to the school siting criteria are discussed in detail below.

## **School Siting Criteria**

The California Education Code contains various provisions governing the siting of new public schools (e.g., Education Code Sections 17211, 17212, and 17212.5). In addition, to help focus and manage the site selection process, CDE's School Facilities and Planning Division has developed screening and ranking procedures based on criteria commonly affecting school selection (Education Code Section 17251[b], 5 CCR Section 14001[c]). The highest priority on the criteria list is safety. Other site selection criteria require an analysis of the specific environmental constraints and land use concerns.

The Rio del Oro project designates a site for an elementary school and another site for a combined high school/middle school facility that the Folsom-Cordova Unified School District (FCUSD) would construct and operate on property to be purchased from the Phase 1 project applicant (Elliott Homes). Before a school district can obtain state funding to acquire a site for a proposed school facility, CDE must approve the site to ensure that certain minimum criteria are met (CDE 2000). FCUSD uses these criteria for locating new school sites. The criteria relevant to the project include the requirement of an analysis of environmental constraints and land use concerns.

This draft environmental impact report/draft environmental impact statement (DEIR/DEIS) only analyzes the school sites proposed for development Phase 1. Because a conceptual site plan was developed and provided by FCUSD, details of these schools were available to conduct a project-specific analysis. Other school sites are not evaluated at this level of detail because FCUSD has not developed conceptual site plans for other school sites. As conceptual site plans were developed for the remaining school sites FCUSD would prepare separate, site-specific environmental review documents for other Phase 1 schools, and for schools proposed for subsequent project phases.

The foremost consideration in the selection of school sites is safety. Certain health and safety requirements are governed by state statute and CDE regulations. In selecting a school site, a school district should consider the following factors: proximity to airports, proximity to high-voltage power transmission lines, presence of toxic and hazardous substances, hazardous air emissions, and facilities within one-quarter mile, and proximity to railroads.

### **Airports**

The site must not be located within any aircraft accident exposure or airport safety areas. Disclosure and further investigation are required if the location of a proposed school site is within 2 miles of an airport.

### **Proximity to High-Voltage Power Transmission Lines**

CDE's SFPD recognizes that "electric power transmission lines maintained by power companies may or may not be hazardous to human health." (See SFPD's *School Site Selection and Approval Guide* [CDE 2000].) While CDE continues to monitor research regarding the effects of electromagnetic fields on human beings, it cautions school districts to be aware of the health and safety aspects of overhead transmission lines. SFPD has established limitations in consultation with the California Department of Health Services and electric power companies.

A consultant from CDE will assist the school district in assessing each site according to its own potential hazards. However, under no circumstances should any portion of a school site be located within the following distances

from a power line easement: 100 feet from the edge of an easement for a 50- to 133-kilovolt (kV) line, 150 feet from the edge of an easement for a 220- to 230-kV line, or 350 feet from the edge of an easement for a 500- to 550-kV line (5 CCR Section 14010[c]). The figures are based on kV strengths of transmission lines used by utility companies in January 1993.

### ***Proximity to Toxic and Hazardous Substances***

Another safety concern in the school siting process is the presence of potentially toxic or hazardous substances on, or in the vicinity of, a prospective school site. School districts and their site evaluation teams should be wary of the following hazards:

- ▶ landfill areas on or adjacent to the site;
- ▶ the proximity of the site to current or former dump areas, chemical plants, oil fields, refineries, fuel storage facilities, nuclear generating plants, abandoned farms and dairies, and agricultural areas where pesticides and fertilizer have been heavily used; and
- ▶ naturally occurring hazardous materials, such as asbestos, oil, and gas.

Before receiving final site approval from CDE and funds under the School Facilities Program, school districts must follow specific statutory and regulatory procedures enacted to ensure that school sites are free from toxic and hazardous materials. A district may submit materials documenting compliance with the toxic and hazardous-substances requirements before submitting the balance of the site-approval package documents required by CDE. (See Sections 3.6, “Public Services,” and 3.13, “Hazards and Hazardous Materials,” of this DEIR/DEIS for discussion of FCUSD’s compliance with hazardous materials requirements.)

Generally, a school district must comply with the following requirements:

- ▶ A qualified consultant must be retained to investigate current and historic uses on the site. The consultant must prepare a Phase I environmental site assessment, in accordance with standards of the American Society of Testing and Materials (ASTM E-1527-2000).
- ▶ If the Phase I assessment demonstrates that no further investigation is required, the school district shall submit to CDE two copies of the Phase I assessment and payment for review by the California Department of Toxic Substances Control (DTSC). CDE will transmit the payment and the Phase I assessment to DTSC for its review and determination. If DTSC concurs with the Phase I assessment, it will issue a determination letter stating that “no action” is required related to hazardous materials.
- ▶ If the Phase I assessment demonstrates that further investigation is necessary, or if DTSC requires further investigation, the school district, in coordination with DTSC, must hire a qualified consultant to undertake a Preliminary Endangerment Assessment (PEA). DTSC will oversee and review the consultant’s work. Through soil sampling and risk assessment, a PEA must indicate whether a release of a hazardous material has occurred or will occur, or whether naturally occurring hazardous material poses a significant health risk. DTSC should approve the PEA if no hazardous materials are identified, or if identified materials do not pose a significant health risk. DTSC will then issue a determination letter stating that “no further action” is required.
- ▶ If the PEA demonstrates that there could be health risks associated with hazardous materials, DTSC may require the school district to prepare and implement a Response Action (cleanup, removal, or remediation of hazardous materials). DTSC would oversee and retain approval authority over the Response Action. Before the school district may acquire the proposed site, or begin the Response Action, it must obtain a Contingent Site Approval from CDE to ensure the site meets all other requirements for CDE approval. DTSC will issue a certification letter when a Response Action is completed.

### ***High-Pressure Pipelines, Reservoirs, or Water Storage Tanks***

CDE prohibits a school district from locating a school site near an aboveground water or fuel storage tank or within 1,500 feet of the easement of an aboveground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission. In addition, a proposed school site should be at least 1,500 feet from the easement of a reservoir or storage tank.

### ***Hazardous Air Emissions and Facilities within One-Quarter Mile***

A school district, in consultation with the local air pollution control district or air quality management district, must identify permitted and nonpermitted facilities, including but not limited to freeways and other busy traffic corridors, large agricultural operations, and rail yards within one-quarter mile of the proposed site that might reasonably be anticipated to emit hazardous air emissions or handle hazardous materials, substances, or wastes. Additional information, evaluation, and cleanup may be required if such facilities are found to be present.

### ***Other Health Hazards***

A school district shall include in an EIR or mitigated negative declaration information necessary to determine that the proposed school project is not any of the following:

- ▶ the site of a current or former hazardous waste disposal site or solid-waste disposal site, unless, if the site was a former solid-waste disposal site, the board of education concludes that the wastes have been removed;
- ▶ a hazardous-substance release site identified by DTSC; or
- ▶ the site of one or more pipelines, situated underground or aboveground, that carry hazardous substances, materials, or wastes, unless the pipeline is used only to supply natural gas to that school or neighborhood.

These written determinations, as adopted by the FCUSD school board, must be submitted to CDE as part of a site approval package. Often this information is included in the Phase I site assessment and in the certified California Environmental Quality Act (CEQA) document.

Other factors to consider are as follows:

- ▶ If the proposed land has been designated a border-zone property by DTSC, then a school may not be located on the site without a specific variance in writing by DTSC.
- ▶ From a nuisance standpoint the site selection committee should also consider whether a site is located near or downwind from a stockyard, fertilizer plant, soil-processing operation, auto-dismantling facility, sewage treatment plant, or other potentially hazardous facility.

### ***Proximity to Railroad Tracks***

CDE regulations provide that, when a proposed school site is within 1,500 feet of a railroad track easement, the school district must retain a “competent professional” to complete a safety study.

### ***Flooding***

Proposed school sites should not be located within the 100-year floodplain as indicated on the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps or within flood areas as indicated on local flood maps.

## ***Air Quality Adjacent to Busy Traffic Corridors***

If a proposed school site would be within 500 feet of the edge of the closest traffic lane of a freeway or other busy traffic corridor, a health risk assessment must be performed to determine whether the health of students and staff could be at risk. The phrase “freeway or other busy traffic corridor” is defined as any roadway that, on an average day, has traffic in excess of 50,000 vehicles in a rural area or 100,000 vehicles in an urban area.

## ***Access/Streets***

CDE guidelines indicate that the proposed school site should be safely and easily accessible to residential neighborhoods by pedestrian, bus, and private-automobile traffic on publicly maintained roadways or walkways. School sites adjacent to streets with relatively high traffic volumes are typically not considered acceptable unless other safe access is available for the neighborhood.

## ***Wetlands***

CDE regulations caution school districts against selecting school sites on or near existing wetlands (5 CCR Section 14010[s][5]). Specifically, the regulations instruct school districts to consider the cost and complications associated with selecting sites characterized by “the existence of any wildlife habitat that is on a protected or endangered species list maintained by any state or federal agency, existence of any wetlands, natural waterways, or areas that may support migratory species, or evidence of any environmentally sensitive vegetation.” If the selection of such a site would result in “undue delay” or “unreasonable costs consistent with State Allocation Board standards,” then the school district should not pursue the site.

## ***Land Use Plans***

CDE requires an analysis to determine whether the site is adjacent to compatible land uses, and adopted general plan and zoning designations. Adjacent industrial and commercial uses are typically not considered compatible with elementary schools. A proposed school site should not be land under an existing Williamson Act contract (see “Williamson Act” below). In addition, the school site should be designated on the general, specific, and community plan land use maps as a proposed and eventually as an existing school site.

## ***Consultation and Findings***

CEQA Section 21151.8, the State CEQA Guidelines (CCR Section 15186[c]), and Education Code Section 17213(b) identify environmental requirements for school projects in addition to the standard environmental analysis requirements of CEQA. These additional requirements are intended to ensure that, before a school district approves a school project at a given site, the site is evaluated to identify potential health effects that could result from exposure to hazardous materials, wastes, emissions, and substances. The school district as lead agency is required to consult with other agencies in this regard, before a school project is considered for approval.

CEQA Section 21151.2 also requires that a school district give notice, in writing, to the appropriate planning commission of its intent to acquire title to property for a new school site or an addition to an existing school site. The planning commission is requested to investigate the proposed site and submit its recommendations concerning acquisition of the site to the governing board of the school district within 30 days of receiving notice. Following the required consultation, the school district’s governing board must make written findings when taking action on the proposed school project.

These requirements are set forth herein, despite the absence of a school district as lead agency under CEQA, because the project applicant(s) and the City, in identifying school sites within the Rio del Oro Specific Plan area, have tried to be cognizant of school siting requirements and criteria. The intent of analyzing the proposed Phase 1 schools was not for FCUSD to rely solely on the Rio del Oro Specific Plan EIR/EIS for project-level review of Phase 1 schools. Rather, the intent of the analysis was to identify potential issues with CDE criteria early in the

planning process and expedite FCUSD's preparation and processing of its site-specific CEQA compliance document.

## **Williamson Act**

The California Land Conservation Act of 1965, also known as the Williamson Act, is designed to preserve agriculture and open-space lands by discouraging their premature and unnecessary conversion to urban uses. The act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open-space use. In return, landowners receive property tax assessments that are much lower than normal because they are based on farming and open-space uses as opposed to full market value. None of the land at the project site is held under Williamson Act contracts.

## **California Important Farmland Inventory System and Farmland Mapping and Monitoring Program**

The Farmland Mapping and Monitoring Program (FMMP) was established by the State of California in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Soil Conservation Service (SCS) (now called the Natural Resources Conservation Service [NRCS] of the U.S. Department of Agriculture). The intent of the SCS was to produce agricultural-resource maps based on soil quality and land use across the nation. The California Department of Conservation (CDC) sponsors the FMMP and is also responsible for establishing agricultural easements in accordance with Public Resources Code Sections 10250–10255.

As part of the nationwide agricultural-land-use mapping effort, the SCS/NRCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classify the land's suitability for agricultural production. Suitability includes both the physical and chemical characteristics of soils as well as the actual land use. Important Farmland maps are derived from the NRCS (formerly SCS) soil survey maps using the LIM criteria and are available by county. Important Farmland maps classify land into one of the following eight categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, Other Land, and Water. The CDC classifications in the Important Farmland Inventory System are as follows:

- ▶ **Prime Farmland**—Land that has the best combination of features for the production of agricultural crops
- ▶ **Farmland of Statewide Importance**—Land other than Prime Farmland that has a good combination of physical and chemical features for the production of agricultural crops
- ▶ **Unique Farmland**—Land of lesser quality soils used for the production of the state's leading agricultural cash crops
- ▶ **Farmland of Local Importance**—Land that is of importance to the local agricultural economy
- ▶ **Grazing Land**—Land with existing vegetation that is suitable for grazing
- ▶ **Urban and Built-up Lands**—Land occupied by structures with a density of at least one dwelling unit per 1.5 acres
- ▶ **Land Committed to Nonagricultural Use**—Vacant areas; existing lands that have a permanent commitment to development but have an existing land use of agricultural or grazing lands
- ▶ **Other Lands**—Land that does not meet the criteria of the remaining categories (CDC 2004)

The designations for Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are defined together under the terms “Agricultural Land” and “Important Farmland” in CEQA (Public Resources Code Sections 21060.1 and 21095 and State CEQA Guidelines Appendix G).

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

### **Regional**

#### ***Sacramento Area Council of Governments’ Sacramento Region Blueprint***

The Sacramento Area Council of Governments (SACOG) is a regional organization that provides a variety of planning functions over its six-county region, which includes Sacramento, Yolo, Placer, Sutter, Yuba, and El Dorado Counties. SACOG’s primary functions are to provide transportation planning and funding for the region and to study and support resolutions of regional issues. In 2002, SACOG initiated what is now known as the Sacramento Region Blueprint process after computer modeling of the region showed that current growth patterns and transportation investment priorities would result in significant increases in congestion over the next 50 years, as well as significant consumption of privately held natural and agricultural land. The goal of the process was to determine whether alternatives to current and planned transportation and land use patterns could be established to improve the region’s long-term travel patterns and air quality, as well as retain substantially more open space. The Blueprint is the product of a 3-year public-involvement effort and is intended to guide land use and transportation choices over the next 50 years. During this 50-year period the region’s population is projected to grow from 2 million to more than 3.8 million, jobs are projected to increase from 921,000 to 1.9 million, and housing units are projected to increase from 713,000 to 1.5 million.

The starting point for the Blueprint process was the “Base Case Scenario,” which shows how the region would develop through the year 2050 if growth patterns of the recent past continue. Under the Base Case Scenario, growth would continue outward into largely rural areas and on the fringes of current development. The model predicted that the average resident living in a version of a future typical of the Base Case Scenario in 2050 would probably live in a single-family house on a fairly large lot in a subdivision with similar houses. This resident would commute a longer distance to work than is typical today; trips to work and commercial areas would be lengthy and slow because of significant increases in congestion.

In December 2004 the SACOG Board of Directors adopted the *Preferred Blueprint Scenario* (Exhibit 3.1-1), a vision for growth that promotes compact, mixed-use development and more transit choices as an alternative to low-density development. It includes a greater range of housing products, reinvestment in already developed areas, protection of natural-resource areas from urbanization, and more transportation choices. Residents living in a future developed area consistent with the Preferred Blueprint Scenario in 2050 would probably live in a home on a smaller lot, in a neighborhood with some larger houses and some attached row houses, apartments, and condominiums. Residents would drive to work, but the trip would be shorter than presently, and the time needed to get there would be about the same as it is now. It is anticipated that residents may sometimes use public transportation (i.e., train or bus). Most of their shopping and entertainment trips would still be via the automobile, but the distances would be shorter. Some of these shopping trips might be via walking or biking down the block a short distance to a village or town center that contains neighborhood stores with housing units built on top of them, and a small park or plaza.

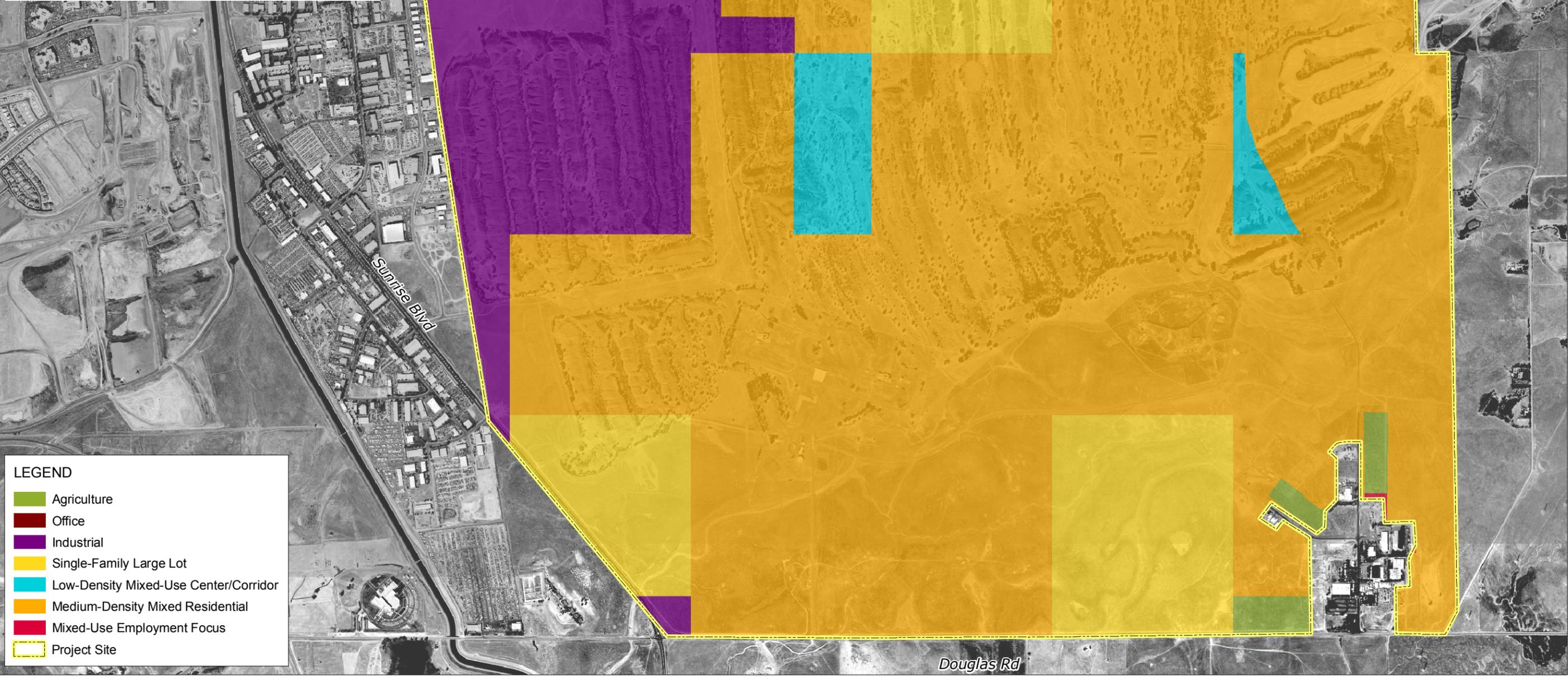
The Sacramento Region Blueprint depicts a way for the region to grow through the year 2050 generally consistent with seven principles of “Smart Growth.” These principles are summarized below and include a comparison of development projected under Base Case Scenario to development projected under the Preferred Blueprint Scenario. (SACOG and Valley Vision 2004.)

- ▶ **Transportation Choices:** Developments should be designed to encourage people to sometimes walk, ride bicycles, ride the bus, ride light rail, take the train, or carpool. Use of Blueprint growth concepts for land use

and right-of-way design would encourage use of these modes of travel and the remaining auto trips would be, on average, shorter. In the Base Case, 2% of new housing and 5% of new jobs would be located within walking distance of 15-minute bus or train service, the number of vehicle miles traveled per day per household would be 34.9 miles, and the total time devoted to travel per household per day would be 81 minutes. The Blueprint Scenario reduces the number of trips taken by car by about 10%. These trips are shifted to transit, walking, or biking. In the Blueprint Scenario, 38% of new homes and 41% of new jobs would be located within walking distance of 15-minute bus or train service, the number of vehicle miles traveled per day per household would be 47.2 miles, and the total time devoted to travel per household per day would be 67 minutes. With the Blueprint Scenario, per capita, there would be 14% less carbon dioxide and particulates produced by car exhaust compared to the Base Case.

- ▶ **Mixed-Use Developments:** Building homes and shops, entertainment, office, and light industrial uses near each other can encourage active, vital neighborhoods. This mixture of uses can be either in a vertical arrangement (mixed in one building) or horizontal (with a combination of uses in close proximity). These types of projects function as local activity centers where people would tend to walk or bike to destinations. Separated land uses, on the other hand, lead to the need to travel more by auto because of the distance between uses. Under the Base Case scenario, 26% of people would live in communities with a good, or balanced, mix of land uses by 2050. In the Blueprint Scenario, 53% of people would live in balanced communities.
- ▶ **Compact Development:** Creating environments that are more compactly built and use space in an efficient but aesthetic manner can encourage more walking, biking, and public-transit use, and shorten auto trips. Under the Base Case, by 2050, new development would require the consumption of an additional 661 square miles of land. Under the Blueprint Scenario, 304 square miles of new land would be required for new development.
- ▶ **Housing Choice and Diversity:** Providing a variety of places where people can live—apartments, condominiums, townhouses, and single-family detached homes on varying lot sizes—creates opportunities for the variety of people who need them: families, singles, seniors, and people with special needs. This issue is of special concern for people with very low, low, and moderate incomes. By providing a diversity of housing options, more people would have a choice.
- ▶ **Use of Existing Assets:** In urbanized areas, development on infill or vacant lands, intensification of the use of underutilized parcels, or redevelopment can make better use of existing public infrastructure. This can also include rehabilitation and reuse of historic buildings, denser clustering of buildings in suburban office parks, and joint use of existing public facilities such as schools and parking garages. Under the Base Case Scenario, all new development would be on vacant land. Under the Blueprint Scenario, it is suggested that 13% of all new housing and 10% of all new jobs would occur through reinvestment.
- ▶ **Quality Design:** The design details of any land use development—such as the relationship to the street, setbacks, placement of garages, sidewalks, landscaping, the aesthetics of building design, and the design of the public rights-of-way—are factors that can influence the attractiveness of living in a compact development and facilitate the ease of walking and biking to work or neighborhood services. Good site and architectural design is an important factor in creating a sense of community and a sense of place. Under the Base Case, 34% of people would live in pedestrian-friendly neighborhoods. Under the Blueprint Scenario, in 2050, pedestrian-friendly neighborhoods would rise to 69%.
- ▶ **Natural Resources Conservation:** This principle encourages the incorporation of public-use open space (such as parks, town squares, trails, and greenbelts) within development projects, above state requirements; it also encourages wildlife and plant habitat preservation, agricultural preservation, and promotion of environmentally friendly practices such as energy efficient design, water conservation and stormwater management, and planting of shade trees. Under the Base Case, 166 square miles of agricultural land would be converted into urban uses. Under the Blueprint Scenario, 102 square miles of agricultural land would be

Blueprint Land Uses	Acres
Agriculture	32
Office	47
Industrial	596
Single-Family Large Lot	474
Low-Density Mixed-Use Center/Corridor	147
Medium-Density Mixed Residential	2,527
Mixed-Use Employment Focus	1
<b>TOTAL</b>	<b>3,824</b>



**LEGEND**

- Agriculture
- Office
- Industrial
- Single-Family Large Lot
- Low-Density Mixed-Use Center/Corridor
- Medium-Density Mixed Residential
- Mixed-Use Employment Focus
- Project Site

Source: SACOG 2002, Sacramento County 2002

**SACOG Preferred Blueprint Scenario**

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 X 3T089.01 1/06

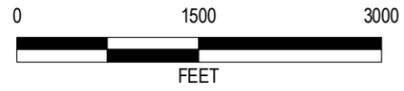


EXHIBIT **3.1-1**

converted to urban uses. When the Preferred Blueprint Scenario was developed, the authors included a calculated, predetermined “preservation factor” that was intended to account for a certain amount of land that could be set aside in the future to preserve natural resources. However, the Preferred Blueprint Scenario did not attempt to map specific areas that could potentially be set aside as preserves. The only “preserve” areas that were mapped were those already designated as such that were in existence at the time the Preferred Blueprint Scenario was created.

The Preferred Blueprint Scenario predicts long-term environmental benefits from undertaking a realistic long-term planning process; these benefits are intended to minimize the extent of the inevitable physical expansion of the overall regional urban areas. In summary, if the Preferred Blueprint Scenario were followed, it would result in more mixed-use communities; provide a greater number of small-lot, single-family detached homes; develop a greater number of attached homes; reinvest in existing business and residential areas; and create more pedestrian-friendly neighborhoods. The results of implementing these principles would be the protection of natural resources (because less land would be required for urban uses) and less agricultural land conversion. In addition, the Preferred Blueprint Scenario predicts less time devoted to travel, fewer car trips, and fewer miles traveled to work and local businesses compared with development under the Base Case. The reduction in traffic would improve air quality in the region by reducing carbon monoxide and particulate matter produced by car exhaust.

The Blueprint process received broad support from most of its member agencies. The Blueprint is advisory and therefore does not establish land use restrictions for the City. SACOG has no land use authority. Although it is only advisory, the Blueprint is the most authoritative policy guidance in the Sacramento region for long-term regional land use and transportation planning. A number of jurisdictions either are adopting the Blueprint concepts or are considering and encouraging projects consistent with the Blueprint. Further, the land uses in the *Rancho Cordova General Plan* (City General Plan) generally reflect the types and intensity of land uses shown in the Preferred Blueprint Scenario, which envisions relatively higher overall residential densities than currently in place (Exhibit 3.1-1). While not establishing “buildout targets,” this land use scenario anticipates the addition of approximately 54,000–60,000 new households and 48,000 new jobs in the current Rancho Cordova city limits (based on assumptions used in the Blueprint process), with possible additional growth in the City’s Planning Areas.

### ***Mather Airport Policy Area and Comprehensive Land Use Plan***

Mather Airport (formerly Mather AFB) has been open as a public-use air cargo and general aviation airport since May 5, 1995. Managed by the County Department of Airports, the airport consists of two primary runways, one 11,300 feet long and the other 6,100 feet long, generally aligned in a northeast-to-southwest direction. Mather Airport is a joint-use facility, supporting both military and commercial operations, and is rapidly developing as an air cargo depot. The airport includes approximately 40 acres of exclusive air cargo ramp space.

The County has initiated a master plan for Mather Airport to identify the facilities necessary to meet near- and long-term aviation demands. The master plan is intended to assist the County in preparing for the challenges and opportunities associated with growth in aviation activity, trends and factors affecting the air cargo market, potential benefits to and effects on the community, and community desires for economic generation. (Leigh Fischer Associates 2003.) The draft final *Mather Airport Master Plan* is currently undergoing environmental review by the County Department of Environmental Review and Assessment. No timeframe has been identified for approval of the master plan.

Portions of development Phase 1 are within the MAPA and the Mather Airport CLUP. The MAPA was adopted by the County Board of Supervisors in 1997. New noise contours for the MAPA were developed in 2004, and the County Board of Supervisors has adopted these contours for planning purposes only. The new noise contours will be included in a future update to the CLUP. The MAPA provides policy for compatible land uses near airports and, in conjunction with regulations of the Federal Aviation Administration (FAA) and the California Department of Transportation (Caltrans) Division of Aeronautics, clear zones and safety zones have been established for public airports. The MAPA was established to increase awareness in future residential communities of potential

aircraft noise exposure, limit the potential conflict between existing communities, and protect future airport development and operational flexibility beyond that provided in the CLUP.

The 2002 *California Airport Land Use Planning Handbook* (Caltrans 2002) is the guiding document for establishing, preparing, and modifying local airport land use compatibility plans (ALUCPs) (formerly known as CLUPs) and their policies and procedures. ALUCP policies are intended to increase the awareness of residents, in any future residential communities that are approved, of their possible exposure to aircraft operations; to limit the potential for conflict between the airport and adjacent communities; and to protect future airport development and aircraft operations. SACOG serves as the Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo, and Yuba Counties. It is responsible for developing and maintaining ALUCPs to protect public health and safety and ensure compatible land uses in the areas around each airport.

Following the 1988 closure of Mather AFB, Sacramento County adopted a reuse plan for Mather Airport in fall 1991. The Mather Airport CLUP was subsequently adopted by the ALUC in May 1997. In general, land uses within the CLUP zones are restricted to agricultural, mining, and industrial. The MAPA prohibits new residential development in those areas subject to noise levels of 65 decibels (dB) community noise equivalent level (CNEL) or above (Leigh Fischer Associates 2003). In addition, the CLUP requires additional insulation measures for home construction within the MAPA, but outside the 60-db CNEL noise contour; a disclosure in the public report to new homebuyers of property within these areas that they are located within the MAPA; and the granting of an aviation easement for all properties located within the MAPA. The MAPA is intended to promote community safety and to allow growth of Mather Airport as an air cargo facility. None of the CLUP zones would affect off-airport areas planned for residential, commercial, and office use (Leigh Fischer Associates 2003). An update to the Mather Airport CLUP (now known as ALUCP) was planned to begin in 2005; however, in January 2005, the SACOG Housing & Land Use Committee determined that the update of the ALUCP for Mather Airport would not go forward because the environmental review process has not been completed for its master plan (SACOG 2005).

## **County of Sacramento**

### ***Sacramento County Local Agency Formation Commission***

The project would require approval of annexation by the Sacramento County LAFCo to the service area of the Sacramento Regional County Sanitation District (SRCSD) and County Sanitation District No. 1 (CSD-1) prior to service. The broad goals of the County LAFCo include ensuring the orderly formation of local governmental agencies, preserving agricultural and open-space lands, and discouraging urban sprawl. Commissions must, by law, create municipal-service reviews and update spheres of influence for each independent local governmental jurisdiction within their countywide jurisdiction. The County LAFCo has adopted the following policies and guidelines for approval of annexation:

- ▶ Consider favorably proposals that result in the provision of urban services in densely developed and populated areas.
- ▶ Consider favorably proposals that will provide urban services in areas with high growth potential rather than in areas with limited potential for future growth.
- ▶ Assess the environmental consequences of its [LAFCo's] actions and decisions (required by CEQA), and take actions to avoid or minimize a project's adverse environmental impacts if feasible, or approve a project despite significant effects because it finds overriding considerations exist. To comply with CEQA, LAFCo will take one or more of the following actions:
  - approve a project (at its discretion) without changes if environmental impacts are insignificant;
  - require an applicant to modify a project;

- establish mitigation measures as a condition of its approval of the proposal;
  - deny the proposal because of unacceptable adverse environmental impacts;
  - approve the project despite its significant effects by making findings of overriding concern;
  - consider favorably those applications that do not shift the cost for services and infrastructure benefits to other service areas;
  - consider favorably those applications that improve the balance between jobs and housing; and
  - encourage the use of service providers that are governed by the citizens.
- ▶ Community needs are met most efficiently and effectively by governmental agencies which:
- are already in existence,
  - are capable of coordinating service delivery over a relatively large area, and
  - provide more than one type of service to the territory that they serve.

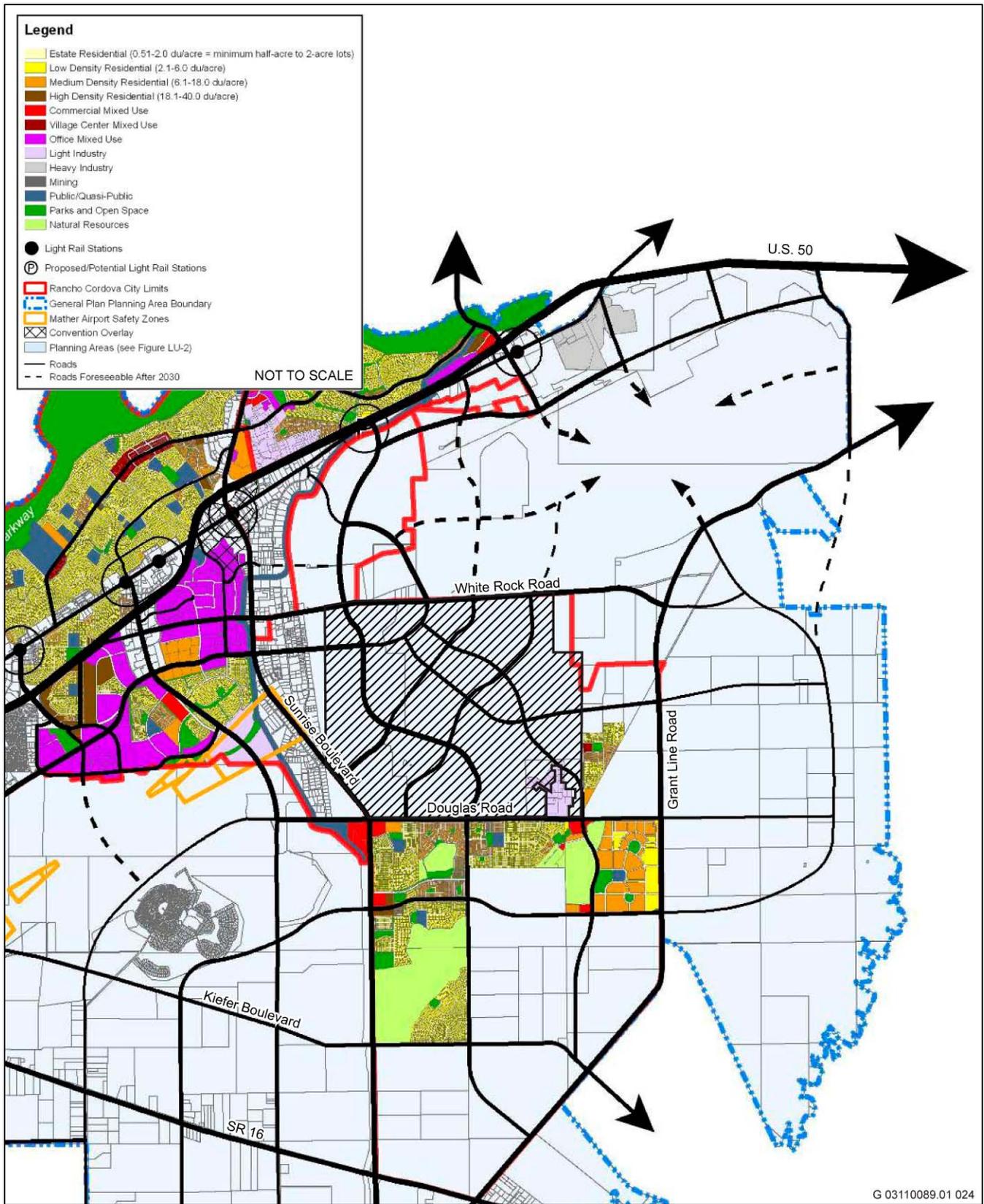
### ***Proposed South Sacramento County Habitat Conservation Plan***

The project site is located within the proposed South Sacramento County Habitat Conservation Plan (SSCHCP) area. The SSCHCP is intended to provide a regional approach to issues related to urban-development habitat conservation, agricultural production, and open-space planning. The SSCHCP would provide strategies to conserve habitat for nine special-status plants and 42 special-status wildlife species. If adopted, it would serve as a multispecies, multihabitat conservation plan addressing the biological impacts of future urban development within the USB in the southern portion of Sacramento County. To mitigate impacts, land developers that convert habitat within the USB would pay a defined per-acre fee, which would be used to protect, restore, maintain, and monitor habitat. The process for developing the SSCHCP was initiated in 1992. The SSCHCP is not scheduled for completion and implementation until sometime after the beginning of 2007.

### ***Rancho Cordova General Plan***

The land use planning and zoning authority of local jurisdictions in California is set forth in the state's planning laws. The project site is under the planning jurisdiction of the City of Rancho Cordova.

Rancho Cordova officially became a city under the laws of the State of California on July 1, 2003. Upon incorporation, the City adopted applicable portions of the County's general plan and zoning ordinance, as well as applicable community and specific plans, and zoning designations in areas within the newly incorporated city. On June 26, 2006, the City Council adopted the City General Plan. Planning Areas (areas that are described in the City General Plan Land Use Element and designated in the Land Use Map) are described below and shown in Exhibit 3.1-2. Detailed planning efforts (e.g., specific plans or similar planning tools) would be required for implementation of the Planning Areas. Table 3.1-1 provides definitions of current land use designations and provides the definitions and compatible uses as defined by the City General Plan for the project site and adjacent lands. Table 3.1-2 presents the proposed Rio del Oro Specific Plan land use and zoning designations and states whether those proposed designations would be compatible with City General Plan and zoning designations. As noted in Table 3.1-2, the proposed Rio del Oro Specific Plan land use and zoning designations are consistent with the City General Plan and zoning designations and would be incorporated into the Final Land Use Map after adoption of the Rio del Oro Specific Plan.



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Source: City of Rancho Cordova 2006

### City of Rancho Cordova General Plan Land Use Map

EXHIBIT 3.1-2



**Table 3.1-1  
Rancho Cordova General Plan Land Use Designations  
for the Project Site and Adjacent Lands**

Land Use Designation	Definition	Compatible Uses
Low Density Residential (LDR)	Densities of 2.1–6.0 dwelling units per acre (du/ac). The Low Density Residential category represents the traditional single-family neighborhood with a majority of single-family detached homes. This is the predominant land use category of the City’s neighborhoods.	Single-family detached homes in traditional neighborhoods.
Medium Density Residential (MDR)	Densities of 6.1–18.0 du/ac. The Medium Density Residential category is generally characterized by small-lot single-family detached, single-family attached. Medium Density development is often found as part of a village development.	Small apartment complexes, condominiums, town homes, brownstone developments.
High Density Residential (HDR)	Densities of 18.1–40.0 du/ac. This is the most urban residential category available. The predominant style of development is larger multifamily housing complexes. Parking for these facilities is provided in traditional surface lots located all around the complex. At higher densities, parking may be found in some form of structure or underground option.	Apartments, condominiums, or clustered single-family, generally in multistory configurations.
Commercial Mixed-Use (CMU)	Densities of 2.1–18.0 du/ac. The Commercial Mixed-Use category encourages the integration of retail and service commercial uses with office and/or residential uses. In mixed-use projects, commercial use is the predominant use on the ground floor. Parking for mixed-use projects may be combined or separated, depending on the characteristics of the project.	Gas stations, restaurants, retail, shopping centers; office and residential uses would be allowed on up to 50% of a site.
Office Mixed-Use (OMU)	Densities of 2.1–18.0 du/ac. The Office Mixed-Use category encourages the integration of commercial and/or residential use in conjunction with office use of a site. In any case, office uses are the predominant use, but others may be included in a vertical or horizontal configuration.	A site may be developed with an office building that is three or four stories but where the ground floor is occupied by one or more retail and restaurant uses.
Light Industrial (LI)	Generally includes industrial or manufacturing activities that occur entirely within a closed building.	Warehousing activities or distribution centers, not including corporation yards; employee intensive operations (i.e., research and development).
Heavy Industrial (HI)	Generally characterized by industrial or manufacturing activities that may occur inside or outside of an enclosed building.	Industrial yard uses, manufacturing and fabrication, processing and assembly, storage and warehouse, surface mining, and related activities.

**Table 3.1-1  
Rancho Cordova General Plan Land Use Designations  
for the Project Site and Adjacent Lands**

Land Use Designation	Definition	Compatible Uses
Village Center (VC)	Densities of 6.1–18 du/ac and parcel sizes of 5–15 ac. The Village Center category provides daily shopping needs to residents within a village as described in the City’s building blocks concept. This category also allows for the integration of office and/or residential use in conjunction with the predominant commercial uses of the site. Development is pedestrian friendly and oriented toward the street.	Retail, office, and professional uses that serve daily shopping needs of nearby residents, such as small to medium sized grocery stores, supermarkets, drugstores, restaurants, and services.
Local Town Center (LTC)	Densities of 6.1–18 du/ac and parcel sizes of 15–30 ac. The Local Town Center category provides retail services, restaurants, entertainment services, and medium- and high-density residential uses within a district as described in the City’s building block concept. Development is pedestrian friendly with gathering places for both daytime and nighttime activities.	Large retail stores, general retail, restaurant, office, lodging, entertainment, indoor and outdoor recreational facilities, and residential uses.
Regional Town Center (RTC)	Densities of 6.1–40.0 du/ac and parcel sizes of 25–100 ac. The Regional Town Center category is generally characterized by a horizontal or vertical mix of integrated retail, office, and residential uses that serve both the entire city and the region, with population bases of at least 100,000 people. Regional town centers are vibrant destination places for the entire region and foster an active nightlife.	Large retail stores, anchoring retail centers, entertainment, restaurants, lodging, conference centers, indoor and outdoor recreational facilities, arts/cultural centers, and business and professional offices.
Public/Quasi Public (P/QP)	Lands owned by the City of Rancho Cordova and other public agencies for a variety of public and other land uses. Most buildings in this category are high profile and prominent within the community.	Schools, colleges, and universities; churches, synagogues, temples, and other places of worship; hospitals; and cemeteries.
Parks and Open Space (P/OS)	Land within the Parks and Open Space category is designed to be used for both active and passive recreational activities. This designation includes public parks and other public facilities owned by the Cordova Recreation and Park District. Public open space lands will be administered by the City, but may be held in either public or private ownership.	Lakes, trails, golf courses, and similar uses and commercial recreation facilities principally oriented to outdoor uses. Land within this category may also be used for detention basins, creekways, and other more passive uses when colocated next to active recreational uses or when open spaces serve two uses, such as a ball field in summer and a detention basin in winter.
Natural Resources (NR)	Land within the Natural Resources category is set aside as natural habitat and typically has no urban development on it and public access is prohibited. Often, open space trails will be sited adjacent to Natural Resource areas.	Wetland preserve, bike and equestrian trails.

Note: du/ac = dwelling units per acre  
sf = square feet  
Source: City of Rancho Cordova 2006

<b>Table 3.1-2 Proposed Rio del Oro Specific Plan Land Use and Zoning Designations</b>				
Proposed Land Use Designations	Proposed Zoning Designations	Specific Plan Definition	Project Uses	Consistency with City General Plan Land Use and Zoning Designations
Single Family Residential	SF	Densities of 2.1–6.0 du/ac. The size and type of lots anticipated would range from one half-acre executive lots to moderate-sized lots with half-plexes and second units.	Single-family detached homes on large lots in traditional neighborhoods, half-plexes, or second units.	Yes  Proposed residential densities and project uses are consistent with the City General Plan’s Low Density Residential land use designation, which is defined as traditional single-family neighborhoods with a majority of single-family detached homes at densities of 2.1–6.0 du/ac.
Medium Density Residential	MDR	Densities of 6.1–18.0 du/ac. This category would provide a variety of housing types to create for-sale housing at levels attainable to area residents and workers.	Small-lot single-family detached or single-family attached (i.e., condominium- or townhome-type) development.	Yes  Proposed residential densities and project uses are consistent with the City General Plan’s Medium Density Residential land use designation, which is defined as small-lot single-family detached, single-family attached at densities of 6.1–18.0 du/ac.
High Density Residential	HDR	Densities of 18.1+ to 40.0 du/ac. The High Density Residential category would place housing within the Village Center and near commercial mixed-uses. Development would promote alternative transportation through close proximity to goods and services.	Apartments; condominiums; and clustered, multistory single-family residential.	Yes  Proposed residential densities and project uses are consistent with the City General Plan’s High Density Residential land use designation, which is defined as larger multifamily housing complexes at densities of 18.1–40.0 du/ac.
Village Commercial	VC	The Village Commercial category would serve as neighborhood centers adjacent to higher density uses and greenways. This category would allow for high-density residential uses.	Limited commercial uses and high-density residential.	Yes  Proposed project uses are consistent with the City General Plan’s Village Center land use designation, which is defined as office and/or residential uses in conjunction with commercial uses, such as small- to medium-sized grocery stores, supermarkets, drugstores, and restaurants.
Local Town Center	LTC	The Local Town Center would provide a variety of community and neighborhood commercial and office uses within the Village Core and adjacent to community parks and other public uses.	Mix of retail and office uses.	Yes  Proposed project uses are consistent with the City General Plan’s Local Town Center land use designation, which is defined as retail services, restaurants, entertainment services, and medium- and high-density residential uses.

**Table 3.1-2  
Proposed Rio del Oro Specific Plan Land Use and Zoning Designations**

Proposed Land Use Designations	Proposed Zoning Designations	Specific Plan Definition	Project Uses	Consistency with City General Plan Land Use and Zoning Designations
Regional Town Center	RTC	The Regional Town Center would be intended to serve Rancho Cordova and the surrounding areas. This category would include a mix of integrated retail and office uses connected and adjacent to recreational uses.	Retail, commercial, office, and professional services.	Yes  Proposed project uses are consistent with the City General Plan's Regional Town Center land use designation, which is defined as a mix of retail, office, and residential uses that serve both the entire City and the region.
Business Professional	BP	This land use category would encourage commercial use in conjunction with office use. These uses would be connected with the Town Center in proximity to employment land uses and a designated transit center to encourage the ability of workers to use alternative transportation.	Large employment centers, and small professional offices and services.	Yes  Proposed project uses are consistent within the broader City General Plan's Office Mixed-Use land use designation, which is defined as commercial and/or residential uses in conjunction with predominantly office uses.
Industrial Park	MP	Generally includes industrial or manufacturing activities that would not be noise sensitive, and would occur inside or outside of an enclosed building.	Manufacturing, assembly, and other moderate to heavy industrial uses.	Yes  Proposed project uses are consistent within the broader City General Plan's Heavy Industrial land use designation, which is defined as industrial or manufacturing activities that may occur inside or outside of an enclosed building.
Schools	HS, MS, and ES. Underlying zone of SF	School uses would consist of sites designated for construction of a joint high school/middle school, a middle school, and elementary schools. The sites are sized in accordance with the Folsom-Cordova Unified School District criteria. These sites have been given an underlying zone of SF and would be converted to single-family residential if the school district determines the sites are not needed.	High school, middle schools, and elementary schools.	Yes  School uses would be consistent within the broader City General Plan's Public/Quasi Public land use designation, which is defined as lands owned by the City of Rancho Cordova and other public agencies for a variety of public and other land uses.

**Table 3.1-2  
Proposed Rio del Oro Specific Plan Land Use and Zoning Designations**

Proposed Land Use Designations	Proposed Zoning Designations	Specific Plan Definition	Project Uses	Consistency with City General Plan Land Use and Zoning Designations
Public/Quasi Public	P/QP	Public and Quasi Public land uses would be located in the Village Core and anticipated to accommodate a number of public uses that would support the Village Core.	Day care, transit centers, library, and post office.	Yes  Proposed Public and Quasi Public land uses would be consistent with the City General Plan's Public/Quasi Public land use designation, which is defined as lands owned by the City of Rancho Cordova and other public agencies for a variety of public and other land uses.
Parks	Park	This category includes community parks and neighborhood parks. These parks are intended to be easily accessible and focal points in the community.	Ball fields, tennis courts, soccer fields, basketball courts, picnic and playground areas, and community gathering facilities.	Yes  Park uses would be consistent with the City General Plan's Parks/Open Space land use designation, which is defines as land designed to be used for both active and passive recreational activities, and includes public parks and other public facilities owned by the Cordova Recreation and Park District, and administered by the City, but may be held in either public or private ownership.
Private Recreation	PR	Private Recreation would include the area of the project site that has surface soil contamination resulting from prior uses. Limited land uses are proposed which do not require buildings or structures with significant foundations.	Golf course, driving range, skate park, or other non-public uses.	Yes  Private Recreation uses would be consistent with the City General Plan's Parks/Open Space land use designation, which is defines as land designed to be used for both active and passive recreational activities, and includes public parks and other public facilities owned by the Cordova Recreation and Park District, and administered by the City, but may be held in either public or private ownership.
Open Space	OS, SWD, WP, DP, OS/P, LC, GB, ROW	This category applies to open space preserves, wetland/mitigation preserves, drainage parkways, and greenways.	Passive recreation, preserves, floodwater conveyance and retention, stormwater quality treatment, resource mitigation, and interface between land uses and plan area boundaries.	Yes  Open Space uses would be consistent with the City General Plan's Parks/Open Space land use designation, which is defines as land designed to be used for both active and passive recreational activities, and includes public parks and other public facilities owned by the Cordova Recreation and Park District, and administered by the City, but may be held in either public or private ownership. In addition, Open Space uses would be consistent with the City General Plan's Natural Resource land use designation, which includes lands set aside as natural habitat and typically has no urban development.

Source: City of Rancho Cordova 2006

The City's General Plan Land Use Map designates the project site as the Rio del Oro Planning Area. The SunRidge Community Plan Area is identified on the map to the south of the project site. Land use designations adjacent to the project site in this Planning Area include Low Density Residential, Medium Density Residential, and Commercial Mixed Use. The Land Use Map identifies the land immediately north of the project site, on the north side of White Rock Road, as the Aerojet Planning Area, which will continue to be used for aerospace facilities and associated buffer lands. The area approximately 1 mile northwest of the project site is designated as the Westborough Planning Area, and the area approximately 1 mile northeast of the project site is designated as the Glenborough Planning Area. Both of these areas contain a mix of land uses including residential, commercial, and office.

The area west of the project site is designated as the Sunrise Boulevard South Planning Area, which includes the existing industrial park designated as Light Industrial and Heavy Industrial. The Grantline West Planning Area is located between the northeastern project site boundary and Grant Line Road in an area currently used for aggregate mining. The Easton Planning Area is outside the existing city limits on the east side of Grant Line Road. Land uses in this area are projected to include Low Density Residential, Village Centers, a Local Town Center, Light Industrial, Office Mixed Use, and a regional natural or recreational center.

Goals and policies from the City General Plan relating to land use that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### **3.1.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the State CEQA Guidelines, a land use and agricultural resources impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect;
- ▶ physically divide an established community;
- ▶ convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural use; or
- ▶ involve other changes in the existing environment that, because of their location or nature, could result in conversion of farmland to nonagricultural use.

#### **ANALYSIS METHODOLOGY**

The focus of this land use analysis is on land use impacts, including those related to agricultural resources, that would result from project implementation. Evaluation of potential land use impacts of the project was based on a review of the planning documents pertaining to the project study area, including the Land Use Element in the City General Plan, City Zoning Ordinance, the Mather Airport CLUP, the proposed SSCHCP, the CDC Important Farmland Map for Sacramento County, the CDE school siting criteria, field review, and consultation with appropriate agencies.

None of the land at the project site is held under Williamson Act contracts; therefore, the project would not conflict with existing Williamson Act contracts. There are no residences located on the project site, and the project would not physically divide an established community. Because the project would have no impact related to these two thresholds, they are not discussed further in this section. Specific impacts associated with other

resource and issue areas are addressed in each technical section of this DEIR/DEIS as appropriate. These technical sections provide a detailed analysis of other relevant environmental effects as a result of project development. Project consistency with the City General Plan is presented in Appendix F.

## IMPACT ANALYSIS

The project would be consistent with the City General Plan and zoning designations. Based on the results of remedial investigations conducted to date at the project site, DTSC may, where appropriate, place limits on future land uses through deed restrictions and easements on conveyances, and use restrictions on leases. If minor modifications to the land uses currently identified in the land use plans would be required based on future DTSC findings, the Rio del Oro Specific Plan would be amended as necessary.

The project site is located within the proposed SSCHCP area. The draft SSCHCP is expected to be completed in early 2007, but an adoption date is not currently set. Therefore, this plan is not applicable to the project because it has not been adopted.

### Program Level Impacts and Mitigation Measures

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

IMPACT 3.1-1
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Consistency with Sacramento County LAFCo Guidelines for Annexation of the Project Site to SRCSD and CSD-1. *Annexation of the project site into the service area of SRCSD and CSD-1 would require approval by the County LAFCo before these districts could provide wastewater service to the project.*

PP, HD, IM,  
NF

The Cortese-Knox-Hertzberg Act of 2000 (Government Code Section 56000 et seq.) establishes the process through which a local agency boundary change is made and associated planning authority is transferred from one local agency to another. For the project, the Sacramento County LAFCo oversees the establishment or revision of boundaries for local municipalities and independent special districts, such as SRCSD and CSD-1. The current SRCSD/CSD-1 sphere of influence and service area within Sacramento County was approved by the County LAFCo in 1998, with minor annexations adding to the service area since that time. Before SRCSD and CSD-1 could serve the project, the County LAFCo would need to conduct proceedings to consider an amendment to the sphere of influence based on consistency with LAFCo guidelines, and annexation of the territory into SRCSD.

The project would generally be consistent with the Cortese-Knox-Hertzberg Act and the County LAFCo Guidelines. The project would not convert areas designated as Important Farmland by FMMP. The Land Use Map in the City General Plan designates the project site as mixed-use development and the site was zoned by the County for urban development for decades before incorporation of the City. Before the incorporation of Rancho Cordova, a portion of the project site was included within the County USB and a portion of the site was included in the County's Urban Policy Area. These previous County land use decisions made the entire site a logical extension of the Urban Policy Area. Additionally, the project site and adjacent areas have been previously designated for urban development under various adopted plans and zoning ordinances. Thus, development of the project is the logical extension of existing and planned urban areas of the city. This impact would be considered **direct and less than significant. No indirect** impacts would occur. (Refer to Section 3.5, "Utilities and Service Systems," for impacts associated with the provision of wastewater service.) *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not, however, require annexation into SRCSD/CSD-1 because no development would occur.

Because no development would occur under the No Project Alternative, annexation into SRCSD/CSD-1 would be unnecessary; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT**  
3.1-2

**Compatibility with the Mather Airport Land Use Compatibility Plan.** *The Mather Airport CLUP prohibits new residential development in those areas subject to noise levels of 65 db CNEL or above.*

PP, HD, IM,  
NF

New noise contours for the MAPA were developed in 2004, and the County Board of Supervisors has adopted these contours for planning purposes only. The new noise contours will be included in a future update to the CLUP. The City and the Sacramento County Airport System provided the project applicant(s) with these noise contours, which would allow the development to take place based on an updated ALUCP (SACOG 2005).

The Mather Airport CLUP prohibits new residential development in those areas subject to noise levels of 65 dB CNEL or above. In addition, this policy statement requires additional measures for home construction within the MAPA, but outside the 60-db CNEL noise contour. The proposed land use plans were designed based on new noise contours, and no project-related residential development would occur within the 60-db CNEL or above noise contours. Rather, the project would develop industrial parks, business parks, and local town centers in such areas. These land uses, which include large employment centers, light manufacturing, moderate to heavy industrial, and professional offices, are considered compatible uses according to the current CLUP. Additional compatible uses in the 60- to 65-db CNEL contour range include a regional town center, open space, and parks. All land uses proposed within the 60-db CNEL or above noise contours are compatible with the current CLUP (Mather Airport 1996). Although the ALUC would base its review on the current CLUP, the City could determine that the adopted interim noise contour provides an acceptable basis for overriding the ALUC's review (SACOG 2005). Because the project would not conflict with the Mather Airport CLUP or future ALUCP, this impact is considered **direct** and **less than significant**. **No indirect** impacts would occur. Refer to Section 3.16, "Noise," for further discussion of noise impacts related to the Mather Airport CLUP. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities, however, would be consistent with the site's existing zoning for industrial land use, and would be an approved land use within the 65-db CNEL noise contour under the Mather Airport CLUP.

Because no development would occur under the No Project Alternative, there would be no development within the 60- or 65-db CNEL contours; thus, **no direct** or **indirect impacts** would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

IMPACT  
3.1-3

Conflict with the SACOG Sacramento Region Blueprint. *Project implementation could result in conflicts between the project and the SACOG Sacramento Region Preferred Blueprint Scenario.*

PP, HD

The Proposed Project and High Density Alternatives more closely reflect the concept of Smart Growth, as defined by SACOG and by the City in the General Plan, and therefore, would not conflict with the SACOG Blueprint. **No direct** or **indirect** impacts would occur. *[Lesser]*

IM

Project implementation could result in conflicts between the project and the SACOG Sacramento Region Preferred Blueprint Scenario. The types of land uses under the Impact Minimization Alternative would be the same as those under the Proposed Project Alternative. However, the Impact Minimization Alternative would provide a higher level of protection of natural resource areas, 2,823 fewer single-family homes, 32 more medium-density homes, and 1,750 more high-density homes (i.e., attached row houses, apartments, and condominiums) than the Proposed Project Alternative. Under the Impact Minimization Alternative, project components would be reconfigured on the project site in such a way as to avoid and/or reduce impacts on U.S. Army Corps of Engineers jurisdictional wetlands and high-quality biological habitat.

The protection of natural resources would decrease the total amount of residential development by approximately 430 acres, and the density would be reduced such that approximately 1,040 fewer residential units would be constructed. The commercial and industrial development sites would be reduced by approximately 30 acres, and thus the total square footage of commercial and industrial space available for use would be reduced by approximately 400,000 square feet.

As shown in Exhibit 3.1-1, the Blueprint envisions a higher density of development on the project site than proposed under the Impact Minimization Alternative. Although low density on a particular property may reduce the levels of impacts occurring on or emanating from the property, low densities can be considered an inefficient use of finite land resources. In areas with growing populations, low-density development can result in market demand for development being pushed outward toward other areas on the urban periphery, with the long-term consequence of more overall loss of habitat, open space, and farmland. Therefore, this **direct** impact is considered **significant**.

Based on SACOG Blueprint principles, development under the Impact Minimization Alternative could potentially result in future conversion of agricultural land and less protection of natural resources over the long term in the greater Sacramento region because more land would be required for expansion of the overall regional urban areas. Such new development, as proposed under the Impact Minimization Alternative, would be required to comply with the policies of the local jurisdictions. In addition, impacts of these projects would undergo separate environmental review to identify potential impacts and mitigation measures. As such, it cannot be expected that future development would result in less-than-significant impacts; therefore, indirect impacts must be assumed to be **potentially significant**. *[Greater]*

NF

Project implementation could result in conflicts between the project and the SACOG Sacramento Region Preferred Blueprint Scenario. The types of land uses under the No Federal Action Alternative would be the same as those under the Proposed Project Alternative. However, the No Federal Action Alternative would provide a higher level of protection of natural resource areas, 600 fewer single-family homes, 216 fewer medium-density homes, and 20 fewer high-density homes (i.e., attached row houses, apartments, and condominiums) than the Proposed Project Alternative. Under the No Federal Action Alternative, project components would be reconfigured on the project site in such a way as to avoid impacts on jurisdictional wetland features.

The protection of natural resources would decrease the total amount of residential development by approximately 150 acres, and the density would be reduced such that approximately 836 fewer residential units would be constructed. The commercial and industrial development sites would be reduced by approximately 90 acres.

As shown in Exhibit 3.1-1, the Blueprint envisions a higher density of development on the project site than proposed under the No Federal Action Alternative. Although low density on a particular property may reduce the levels of impacts occurring on or emanating from the property, low densities can be considered an inefficient use of finite land resources. In areas with growing populations, low-density development can result in market demand for development being pushed outward toward other areas on the urban periphery, with the long-term consequence of more overall loss of habitat, open space, and farmland. Therefore, this **direct** impact is considered **significant**.

Based on SACOG Blueprint principles, development under the No Federal Action Alternative could potentially result in future conversion of agricultural land and less protection of natural resources over the long term in the greater Sacramento region because more land would be required for expansion of the overall regional urban areas. Such new development, as proposed under the No Federal Action Alternative, would be required to comply with the policies of the local jurisdictions. In addition, impacts of these projects would undergo separate environmental review to identify potential impacts and mitigation measures. As such, it cannot be expected that future development would result in less-than-significant impacts; therefore, indirect impacts must be assumed to be **potentially significant**. [*Greater*]

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. As shown in Exhibit 3.1-1, the Blueprint envisions the project site for development to urban uses.

Because no urban development would occur under the No Project Alternative, this alternative would be inconsistent with the SACOG Preferred Blueprint Scenario. Therefore, this impact is considered **direct** and **significant**.

Based on SACOG Blueprint principles, development under the No Project Alternative could potentially result in future conversion of agricultural land and less protection of natural resources over the long term in the greater Sacramento region because more land would be required for expansion of the overall regional urban areas. Such new development, like the project, would be required to comply with the policies of the local jurisdictions. In addition, impacts of these projects would undergo separate environmental review to identify potential impacts and mitigation measures. As such, it cannot be expected that future development would result in less-than-significant impacts; therefore, **indirect** impacts must be assumed to be **potentially significant**. [*Greater*]

Mitigation Measure: No feasible mitigation measures are available.

IM, NF, NP

No feasible mitigation measures are available to reduce the conflict between the Impact Minimization, No Federal Action, and No Project Alternatives and the SACOG Preferred Blueprint Scenario to a less-than-significant level. The City would determine whether conflicts between the Impact Minimization, No Federal Action, and No Project Alternatives and Blueprint policies and assumptions may translate into potentially significant environmental effects. In determining whether any particular conflict translates into such an effect, the City would carefully consider whether implementation of the Impact Minimization, No Federal Action, or

No Project Alternative, compared with implementation of a Blueprint-based plan, would yield either a lost opportunity to accomplish a long-term environmental benefit, or a lost opportunity to minimize a long-term environmental impact (Public Resources Code Section 21001[g]). Therefore, this impact remains **significant and unavoidable**.

PP, HD No mitigation measures are required.

### Project Level (Phase 1) Impacts and Mitigation Measures

**IMPACT  
3.1-4**

**Compatibility with Sacramento County LAFCo Guidelines for Annexation of the Project Site to SRCSD and CSD-1.** *Annexation of the Phase 1 development area into the service area of SRCSD and CSD-1 would require approval by the County LAFCo before these districts could provide wastewater service to the project.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.1-1 for further discussion of this impact.

**IMPACT  
3.1-5**

**Consistency with the Mather Airport Land Use Compatibility Plan.** *The Mather Airport CLUP prohibits new residential development in those areas subject to noise levels of 65 dB CNEL or above.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.1-2 for further discussion of this impact.

**IMPACT  
3.1-6**

**Conflict with the SACOG Sacramento Region Blueprint.** *Implementation of development Phase 1 could result in conflicts between the project and the SACOG Sacramento Region Preferred Blueprint Scenario.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.1-3 for further discussion of this impact.

For the same reasons as described for Impact 3.1-3 above, no feasible mitigation measures are available to reduce Impact 3.1-6 to a less-than-significant level under the Impact Minimization, No Federal Action, and No Project Alternatives. Refer to the mitigation discussion for Impact 3.1-3 for further discussion. This impact remains **significant and unavoidable** under the Impact Minimization, No Federal Action, and No Project Alternatives. No mitigation measures are required for the Proposed Project Alternative or the High Density Alternative.

**IMPACT  
3.1-7**

**Potential Land Use Conflict with California Department of Education Minimum Site Criteria for Siting the Proposed Elementary School.** *A combined elementary school is proposed as part of development Phase 1. CDE minimum site criteria identify various factors that must be considered in selecting a school site to protect the health and safety of students and staff. Aggregate mining operations adjacent to the site and other factors may require additional assessment based on CDE's evaluation of the minimum site criteria.*

PP, HD, IM, NF FCUSD would construct and operate an elementary school facility on property to be purchased from the Phase 1 project applicant (Elliott Homes). The following impact analysis broadly applies the CDE minimum siting criteria described above in the "Regulatory Framework" section to the proposed school site and identifies the location of additional information in this DEIR/DEIS.

## **Airports**

Mather Airport is generally 2 miles from the proposed elementary school site. The project applicant(s) have agreed to ensure that the school site is outside the 2-mile radius from the end of the runway (Mayer, pers. comm., 2005). According to the Mather Airport CLUP, the proposed school site is outside of the 60-dB CNEL or above noise contours.

## **Proximity to High-Voltage Power Transmission Lines**

A 12-kV Sacramento Municipal Utility District (SMUD) substation is approximately 3 miles northeast of the proposed elementary school site. The new on-site electrical service lines that would be less than 69 kV would be routed underground within the rights-of-way of project site streets. Existing aboveground electrical lines would be placed underground during construction of new facilities. Therefore, the proposed school site would not be in proximity to high-voltage power transmission lines.

## **Proximity to Toxic and Hazardous Substances**

The proposed school site would potentially be in proximity to toxic and hazardous substances. The site is in an area referred to as the Excluded Area, which encompasses approximately 1,100 acres immediately west of the Inactive Rancho Cordova Test Site (IRCTS). The Excluded Area served as a buffer zone that was not associated with aerospace testing or other industrial activities.

At the request of DTSC, Aerojet completed an extensive study of the Excluded Area in search of evidence that historical activities (such as gold dredging) may have resulted in release of chemical contaminants to soil within the area. Findings from Aerojet's study concluded that the Excluded Area did not contain sources of chemical contamination as a result of mining activities, and did not contain areas where any historical aerospace contractor activities were conducted. However, evidence of trash from illegal dumping activities, sealed drums, and stained soils were encountered. The stained soils were determined to contain trace amounts of polychlorinated biphenyls (PCBs). Following cleanup activities that included removal of the contaminated soil, trash, and sealed drums, DTSC issued a determination in 1997 to redefine the IRCCTS to remove the 1,100 acres identified as the Excluded Area from provisions of the Enforceable Order issued for the IRCCTS.

As discussed later in this analysis, the groundwater beneath the Excluded Area, which is between 100 and 230 feet below the ground surface, is contaminated with volatile organic compounds (primarily trichloroethene) and perchlorate. DTSC has issued a deed restriction for the property in the Excluded Area (development Phase 1) that prohibits beneficial uses of this groundwater. Beneficial uses would include drilling for a potable or irrigation water supply well. The lack of contaminants in soil and soil vapor in the Phase 1 development area along with the prohibition against groundwater contact would prevent exposure to contaminated groundwater. The sources of potable water for the project site are discussed in detail in Section 3.5, "Utilities and Service Systems." The proposed school would not use groundwater to serve its students, but instead would use the same surface water supplies provided to the overall Rio del Oro project. Thus, groundwater contamination would not represent a problem for siting the school.

## **Hazardous Pipelines**

There are no buried high-pressure natural gas pipelines, liquid petroleum pipelines, or hazardous materials/hazardous waste pipelines beneath, adjacent to, or within 1,500 feet of the project site. The Phase 1 development area would connect to extensions of the existing service lines, with the ultimate configuration to be approved by Pacific Gas and Electric Company. All natural gas lines

would be routed within the rights-of-way of project site streets. Therefore, the proposed school site would not be in proximity to hazardous pipelines.

### **Hazardous Air Emissions and Facilities within One-Quarter Mile**

ENSR International (ENSR) presented findings and conclusions from a Baseline Risk Assessment of the IRCTS in a report dated December 2004. That report, *Baseline Risk Assessment for the Northern and Southern Groundwater Study Areas* (ENSR International 2004), addressed risks arising from chemicals found in groundwater, soil, and soil vapor. ENSR also evaluated the residential exposure pathway to vapors volatilized from groundwater, migrating through soil vapor, and introduced to indoor air. The ENSR evaluation focused on areas where groundwater was less than 90 feet below ground surface. The cancer tolerance interval was selected based on the U.S. Environmental Protection Agency's (EPA's) maximum residential exposure thresholds of  $10^{-4}$  to  $10^{-6}$ .

The calculations in the risk assessment showed the carcinogenic risk associated with inhalation of volatiles in indoor air to be  $1.25 \times 10^{-5}$ , primarily due to the presence of perchloroethylene (PCE) and trichloroethene (TCE). ENSR concluded this value to be within the EPA target risk range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ . ENSR calculated the noncarcinogenic hazard quotient to be 0.08, which is less than the EPA threshold of 1.

Therefore, the results of ENSR's study indicate that there would be no substantial impacts on human health arising from indoor air quality.

The air quality impacts of the Grantline West mining operations, which would occur at the same time as project development but under a separate Conditional Use Permit issued by the City, were presented in the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005b). Results of that analysis indicated that both short-term construction-related and long-term operations-related  $\text{NO}_x$  emissions would be below the Sacramento Metropolitan Air Quality Management District's (SMAQMD's) thresholds. However, it was determined that  $\text{PM}_{10}$  emissions could exceed SMAQMD thresholds, and therefore mitigation measures were recommended in the *Grantline West Mitigated Negative Declaration* and the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) to reduce  $\text{PM}_{10}$  emissions to a less-than-significant level. As mitigated, indirect impacts from mining activities would not exceed SMAQMD standards for other criteria pollutants. Neither of the two environmental documents indicated that CO emissions would exceed ambient air quality standards.

### **Other Health Hazards**

The proposed school site is located above the Northern Groundwater Study Area (NGSA) (Exhibit 3.13-2) within the Excluded Area and west of the IRCTS. The NGSA includes a portion of the Phase 1 development area and the entire development area of Phases 2 and 4 of the project. This area was designated to address chemicals in the groundwater originating from the Propellant Burn Area, Sigma Complex, DM-14 Assembly Area, and the Aerojet National Priority List site located north of White Rock Road. Approximately 50 groundwater monitoring wells have been installed in the NGSA. Sampling data indicate that volatile organic compounds (primarily TCE) and perchlorate are the primary chemicals of concern in the groundwater, and that the direction of groundwater flow is primarily toward the west-southwest. A draft Groundwater Feasibility Study and a Baseline Risk Assessment were submitted to DTSC and the Central Valley Regional Water Quality Control Board (RWQCB) in 2004.

Aerojet, the Boeing Corporation, and the McDonnell Douglas Corporation are continuing to characterize and remediate contaminants that are present in soil, soil vapor, and groundwater within the IRCTS because of historical uses at the project site. The IRCTS encompasses those lands within development Phases 2–5 adjacent to the proposed school site. Remediation of the IRCTS includes ongoing activities that are being carried out under the oversight of DTSC and the Central Valley RWQCB. (See Section 3.13, “Hazards and Hazardous Materials.”)

### **Proximity to Railroad Tracks**

The Rio del Oro project site is not located within 1,500 feet of a railroad track easement.

### **Flooding**

According to FEMA, the area along Morrison Creek as it flows through the project site has not received detailed study for inclusion in Flood Insurance Rate Maps. However, this portion of Morrison Creek has been designated by the County Department of Water Resources as lying within a 100-year floodplain. Therefore, a conceptual storm drain trunk system has been designed for the specific plan area, which would satisfy 10- and 100-year design requirements as prescribed in the County Standards. See Section 3.4, “Drainage, Hydrology, and Water Quality,” for additional information on the proposed storm drain systems.

### **Air Quality Adjacent to Busy Traffic Corridors**

Primary access to the elementary school campus would be by means of residential roadways. These roadways would not constitute a freeway or busy traffic corridor.

### **Access/Streets**

The proposed school site would be safely and easily accessible to residential neighborhoods by pedestrian, bus, and private-automobile traffic on publicly maintained roadways or walkways. Safety of the streets and travel routes surrounding the project site, and safety of the proposed roadway network, is described in Section 3.14, “Traffic and Transportation.”

### **Wetlands**

A wetland delineation conducted by ECORP in 2005 and verified by the U.S. Army Corps of Engineers in September 2005 identified a total of approximately 56.6 acres of jurisdictional wetlands on the project site. The vast majority of the vernal pools and seasonal wetland swales and all of the seasonal drainages are concentrated within the annual grassland habitat in the southern portion of the project site, where approximately 507 acres of habitat would be designated as Wetland Preserve under the Proposed Project Alternative. Section 3.10, “Biological Resources,” provides additional information on the location of existing wetlands and the Wetland Preserve areas that would be designated under each alternative. See also Chapter 2, “Alternatives,” for the Wetland Preserve areas designated under each land use alternative.

### **Land Use Plans**

The land use plan for the specific plan area identifies the elementary school site as adjacent to medium-density residential (north), single-family residential (east and west), and a park (south). The area east of the school site could be used for aggregate mining operations (not part of the Rio del Oro project) before development of other phases of the specific plan. Mining would be incompatible with school uses. Mitigation Measure 3.13-5 would reduce the possible public-safety hazards related to construction activities and mining operations by providing a clear

demarcation of construction areas, including fencing, temporary walls, signage, protective barriers, and other necessary security provisions for public safety (see Section 3.13, “Hazards and Hazardous Materials”). After mining is complete, the area would be graded for subsequent phases of project development, and medium-density residential units would be constructed.

## Conclusion

CDE minimum site criteria identify various factors that must be considered in selecting a school site to protect the health and safety of students and staff. As described in more detail elsewhere in this DEIR/DEIS, the designated elementary school site would likely meet most of the minimum site criteria (e.g., proximity to high-voltage power lines, proximity to railroad tracks). However, factors such as the presence of aggregate mining operations east of the project site may require additional assessment based on CDE’s evaluation of the minimum site criteria. Because it is unclear whether further environmental review by CDE would identify potentially significant land use conflicts and mitigation measures, the level of significance of this impact cannot be adequately determined; therefore, until FCUSD conducts a separate, site-specific environmental review, the **direct** impacts must be assumed to be **potentially significant**. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities, however, would not generate students or require new schools because no development would occur.

Because no development would occur under the No Project Alternative, the proposed school site would not be constructed; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No feasible mitigation measures are available.

PP, HD, IM, NF No feasible mitigation measures can be identified at this time for the reasons described below.

Because a conceptual site plan was developed and provided by FCUSD, details of this school were available to conduct a project-specific analysis. However, no other conceptual site plans for the remaining designated school sites are available. Despite the absence of a school district as lead agency, the DEIR/DEIS discusses the elementary school site (for which a conceptual site plan was provided) because the project applicant(s) and the City, in identifying school sites within the Rio del Oro Specific Plan area, have tried to be cognizant of school siting requirements and criteria. The intent of analyzing the proposed elementary school was not for FCUSD to rely solely on the Rio del Oro Specific Plan EIR/EIS for project-level review of Phase 1 schools. Rather, the analysis was intended to identify potential issues with CDE criteria early in the planning process and expedite FCUSD’s preparation of its site-specific environmental review document. The same would be true for the proposed elementary schools, although without conceptual site plans it is difficult to conduct a project-level analysis.

The process for school site approval in California would also require DTSC and CDE to review the appropriate environmental documentation (for DTSC, the Phase I Environmental Site Assessment; for CDE, the DEIR/DEIS and applicable forms) to determine whether the proposed school site meets CDE siting criteria after their review. Often, CDE will require additional risk assessments as part of the site approval process; these risk assessments may identify portions of a site for which some types of use may be restricted to ensure student safety.

In addition, DTSC could require FCUSD to conduct a PEA to identify specific risks and appropriate mitigation, based on the results of the Phase I Environmental Site Assessment. These additional levels of agency review and approval are outside the CEQA/National Environmental Policy Act (NEPA) process; although some of these determinations may take place before the EIR/EIS is certified, the process is separate and distinct from environmental review. CDE will not grant final site approval until site-level environmental review is completed.

The risk assessments required under certain conditions may identify constraints within which the school district must work to obtain CDE approval of a site. If CDE requires additional assessments, the district would obtain and implement any identified mitigation to reduce risks or constraints at the site to an acceptable level as determined by CDE.

NP No mitigation measures are required.

For the reasons described above under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, no feasible mitigation can be identified at this time for this direct, potentially significant impact, and **an ultimate level of significance of this impact cannot be determined**. Therefore, for purposes of this analysis, it must be assumed that this impact would remain **significant and unavoidable**.

**IMPACT  
3.1-8**

**Potential Land Use Conflict with California Department of Education Minimum Site Criteria for Siting the Proposed High School/Middle School.** *A combined middle school/high school is proposed as part of development Phase 1. CDE minimum site criteria identify various factors that must be considered in selecting a school site to protect the health and safety of students and staff. Aggregate mining operations adjacent to the site and other factors may require additional assessment based on CDE's evaluation of the minimum site criteria.*

PP, HD, IM, NF FCUSD would construct and operate a combined high school/middle school facility (Mather High School and Morrison Creek Middle School) on property to be purchased from the Phase 1 project applicant (Elliott Homes). The following impact analysis broadly applies the CDE minimum siting criteria described above in the “Regulatory Framework” section to the designated school site and identifies the location of additional information in this DEIR/DEIS.

**Airports**

Mather Airport is approximately 3.7 miles from the proposed school site. According to the Mather Airport CLUP, the proposed school site is outside of the 60-db CNEL or above noise contours and outside of the 2-mile radius from the end of the runway. Therefore, the site would not be located within any aircraft accident exposure or airport safety area.

**Proximity to High-Voltage Power Transmission Lines**

A 12-kV SMUD substation is approximately 2.8 miles northeast of the proposed school site. The new on-site electrical service lines that would be less than 69 kV would be routed underground within the rights-of-way of project site streets. Existing aboveground electrical lines would be placed underground during construction of new facilities. Therefore, the proposed school site would not be in proximity to high-voltage power transmission lines.

**Proximity to Toxic and Hazardous Substances**

The proposed school site would potentially be in proximity to toxic and hazardous substances. The site is in an area referred to as the Excluded Area, which encompasses approximately

1,100 acres immediately west of the IRCTS. The Excluded Area served as a buffer zone that was not associated with aerospace testing or other industrial activities.

At the request of DTSC, Aerojet completed an extensive study of the Excluded Area in search of evidence that historical activities (such as gold dredging) may have resulted in release of chemical contaminants to soil within the area. Findings from Aerojet's study concluded that the Excluded Area did not contain sources of chemical contamination as a result of mining activities, and did not contain areas where any historical aerospace contractor activities were conducted. However, evidence of trash from illegal dumping activities, sealed drums, and stained soils were encountered. The stained soils were determined to contain trace amounts of PCBs. Following cleanup activities that included removal of the contaminated soil, trash, and sealed drums, DTSC issued a determination in 1997 to redefine the IRCTS to remove the 1,100 acres identified as the Excluded Area from provisions of the Enforceable Order issued for the IRCTS. Thus, the proposed school site would not be located on a hazardous materials site.

The closest remediation site to the high school/middle school is the Beta Complex, which is approximately 150 feet south and surrounded by a security fence. The Beta Complex includes approximately 120 acres that contained two rocket test stands and support facilities that were used for static firing of the Saturn S-IVB liquid rocket motor. However, DTSC approved a No Further Action designation for the Beta Complex in 2002, and this site is fully remediated. Additional sites within the IRCTS are still undergoing remediation activities. Section 3.13, "Hazards and Hazardous Materials," provides further information on hazardous materials.

As discussed later in this discussion, the groundwater beneath the Excluded Area, which is between 100 and 230 feet below the ground surface, is contaminated with volatile organic compounds (primarily TCE) and perchlorate. DTSC has issued a Deed Restriction for the property in the Excluded Area (development Phase 1) that prohibits beneficial uses of this groundwater. Beneficial uses would include drilling for a potable or irrigation water supply well. The lack of contaminants in soil and soil vapor in the Phase 1 development area along with the prohibition against groundwater contact would prevent exposure to contaminated groundwater. The sources of potable water for the project site are discussed in detail in Section 3.5, "Utilities and Service Systems." The proposed school would not use groundwater to serve its students, but instead would use the same surface water supplies provided to the overall Rio del Oro project. Thus, groundwater contamination would not represent a problem for siting the school.

### **Hazardous Pipelines**

There are no buried high-pressure natural gas pipelines, liquid petroleum pipelines, or hazardous materials/hazardous waste pipelines beneath, adjacent to, or within 1,500 feet of the project site. The Phase 1 development area would connect to extensions of the existing service lines, with the ultimate configuration to be approved by PG&E. All natural gas lines would be routed within the rights-of-way of project site streets. Therefore, the proposed school site would not be in proximity to hazardous pipelines.

### **Hazardous Air Emissions and Facilities within One-Quarter Mile**

ENSR presented findings and conclusions from a Baseline Risk Assessment of the IRCTS in a report dated December 2004. That report, *Baseline Risk Assessment for the Northern and Southern Groundwater Study Areas* (ENSR International 2004), addressed risks arising from chemicals found in groundwater, soil, and soil vapor. ENSR also evaluated the residential exposure pathway to vapors volatilized from groundwater, migrating through soil vapor, and

introduced to indoor air. The ENSR evaluation focused on areas where groundwater was less than 90 feet below ground surface. The cancer tolerance interval was selected based on EPA's maximum residential exposure thresholds of  $10^{-4}$  to  $10^{-6}$ .

The calculations in the risk assessment showed the carcinogenic risk associated with inhalation of volatiles in indoor air to be  $1.25 \times 10^{-5}$ , primarily because of the presence of PCE and TCE. ENSR concluded this value to be within the EPA target risk range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ . ENSR calculated the noncarcinogenic hazard quotient to be 0.08, which is less than the EPA threshold of 1.

Therefore, the results of ENSR's study indicate that there would be no substantial impacts on human health arising from indoor air quality.

The air quality impacts of the Grantline West mining operations, which would occur at the same time as project development but under a separate conditional use permit issued by the City, were presented in the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005b). Results of that analysis indicated that both short-term construction-related and long-term operations-related  $\text{NO}_x$  emissions would be below SMAQMD's thresholds. However, it was determined that  $\text{PM}_{10}$  emissions could exceed SMAQMD thresholds, and therefore mitigation measures were recommended in the *Grantline West Mitigated Negative Declaration* and the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) to reduce  $\text{PM}_{10}$  emissions to a less-than-significant level. As mitigated, indirect impacts from mining activities would not exceed SMAQMD standards for other criteria pollutants. Neither of the two environmental documents indicated that CO emissions would exceed ambient air quality standards.

### **Other Health Hazards**

The proposed school site is located above the NGSA (Exhibit 3.13-2) within the Excluded Area and west of the IRCTS. The NGSA includes a portion of the Phase 1 development area and the entire development area of Phases 2 and 4 of the project. This area was designated to address chemicals in the groundwater originating from the Propellant Burn Area, Sigma Complex, DM-14 Assembly Area, and the Aerojet NPL site located north of White Rock Road. Approximately 50 groundwater monitoring wells have been installed in the NGSA. Sampling data indicate that volatile organic compounds (primarily TCE) and perchlorate are the primary chemicals of concern in the groundwater, and that the direction of groundwater flow is primarily toward the west-southwest. A draft Groundwater Feasibility Study and a Baseline Risk Assessment were submitted to DTSC and the Central Valley RWQCB in 2004.

Aerojet, the Boeing Corporation, and the McDonnell Douglas Corporation are continuing to characterize and remediate contaminants that are present in soil, soil vapor, and groundwater within the IRCTS because of historical uses at the project site. The IRCTS encompasses those lands within the development area of Phases 2–5 that are adjacent to the proposed school site. Remediation of the IRCTS includes ongoing activities that are being carried out under the oversight of DTSC and the Central Valley RWQCB. (See Section 3.13, "Hazards and Hazardous Materials.")

### **Proximity to Railroad Tracks**

The Rio del Oro project site is not located within 1,500 feet of a railroad track easement.

## **Flooding**

According to FEMA, the area along Morrison Creek as it flows through the project site has not received detailed study for inclusion in Flood Insurance Rate Maps. However, this portion of Morrison Creek has been designated by the County Department of Water Resources as lying within a 100-year floodplain. Therefore, a conceptual storm drain trunk system has been designed for the specific plan area, which would satisfy 10- and 100-year design requirements as prescribed in the County Standards. See Section 3.4, “Drainage, Hydrology, and Water Quality,” for additional information on the proposed storm drain systems.

## **Air Quality Adjacent to Busy Traffic Corridors**

Primary access to the campuses would be by means of two signalized intersections located on Jaeger Road (aka Rancho Cordova Parkway) and Rio del Oro Parkway. These roadways would not constitute a freeway or busy traffic corridor. (See Section 3.14, “Traffic and Transportation,” for additional information on the proposed roadway network.)

## **Access/Streets**

The proposed school site would be safely and easily accessible to residential neighborhoods by pedestrian, bus, and private-automobile traffic on publicly maintained roadways or walkways. Safety of the streets and travel routes surrounding the project site, and safety of the proposed roadway network, is described in Section 3.14, “Traffic and Transportation.”

## **Wetlands**

A wetland delineation conducted by ECORP in 2005 and verified by the U.S. Army Corps of Engineers in September 2005 identified a total of approximately 56.6 acres of jurisdictional wetlands on the project site. The vast majority of the vernal pools and seasonal wetland swales and all of the seasonal drainages are concentrated within the annual grassland habitat in the southern portion of the project site, where approximately 507 acres of habitat would be designated as Wetland Preserve under the Proposed Project. Section 3.10, “Biological Resources,” provides additional information on the location of existing wetlands and the areas that would be designated as Wetland Preserve under each alternative. See also Chapter 2, “Alternatives,” for the Wetland Preserve areas designated under each land use alternative.

## **Land Use Plans**

The land use plan for the specific plan area identifies the high school/middle school site as adjacent to a community park (north) and single-family (west) and medium-density residential (south) developments. The area east of the school site could be used for aggregate mining operations before development of other phases of the specific plan. This land use would be incompatible with school uses. Mitigation Measure 3.13-5 would reduce the possible public-safety hazards related to construction activities and mining operations by providing a clear demarcation of construction areas, including fencing, temporary walls, signage, protective barriers, and other necessary security provisions for public safety. (See Section 3.13, “Hazards and Hazardous Materials.”) After mining is complete, the area would be graded for subsequent phases of project development, and medium-density residential units would be constructed.

## **Conclusion**

CDE minimum site criteria identify various factors that must be considered in selecting a school site to protect the health and safety of students and staff. As described in above and in more detail

elsewhere in this DEIR/DEIS, the designated middle school/high school site would meet most of the minimum site criteria (e.g., proximity to airports, proximity to high-voltage power lines, proximity to railroad tracks). Ongoing aggregate mining operations could occur east of the proposed school site, producing hazardous air emissions and noise. These and other factors may require additional assessment based on CDE's evaluation of the minimum site criteria. Because it is unclear whether further environmental review by CDE would identify potentially significant land use conflicts and mitigation measures, the level of significance of this impact cannot be adequately determined; therefore, until FCUSD conducts a separate, site-specific environmental review, the **direct** impacts must be assumed to be **potentially significant**. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities, however, would not generate students or require new schools because no development would occur.

Because no development would occur under the No Project Alternative, the proposed school site would not be constructed; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No feasible mitigation measures are available.

PP, HD, IM, NF No feasible mitigation measures can be identified at this time for the reasons described below. Because a conceptual site plan was developed and provided by FCUSD, details of this school were available to conduct a project-specific analysis. Despite the absence of a school district as lead agency, the DEIR/DEIS discusses the high school/middle school site because the project applicant(s) and the City, in identifying school sites within the Rio del Oro Specific Plan area, have tried to be cognizant of school siting requirements and criteria. The intent of analyzing the proposed high school/middle school was not for FCUSD to rely solely on the Rio del Oro Specific Plan EIR/EIS for project-level review of Phase 1 schools. Rather, the analysis was intended to identify potential issues with CDE criteria early in the planning process and expedite FCUSD's preparation of its site-specific environmental review document. The same would be true for the proposed elementary schools, although without conceptual site plans it is difficult to conduct a project-level analysis.

The process for school site approval in California would also require DTSC and CDE to review the appropriate environmental documentation (for DTSC, the Phase I Environmental Site Assessment; for CDE, the DEIR/DEIS and applicable forms) to determine whether the proposed school site meets CDE siting criteria after their review. Often, CDE will require additional risk assessments as part of the site approval process; these risk assessments may identify portions of a site for which some types of use may be restricted to ensure student safety.

In addition, DTSC could require FCUSD to conduct a PEA to identify specific risks and appropriate mitigation, based on the results of the Phase I Environmental Site Assessment. These additional levels of agency review and approval are outside the CEQA/NEPA process; although some of these determinations may take place before the EIR/EIS is certified, the process is separate and distinct from environmental review. CDE will not grant final site approval until site-level environmental review is completed.

The risk assessments required under certain conditions may identify constraints within which the school district must work to obtain CDE approval of a site. If CDE requires additional assessments, the district would obtain and implement any identified mitigation to reduce risks or constraints at the site to an acceptable level as determined by CDE.

NP No mitigation measures are required.

For the reasons described above under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, no feasible mitigation can be identified at this time for this direct potentially significant impact, and **an ultimate level of significance of this impact cannot be determined**. Therefore, for purposes of this analysis, it must be assumed that this impact would remain **significant and unavoidable**.

## CUMULATIVE IMPACTS

Implementing the project would not physically divide a community. It therefore also would not contribute to a cumulative impact on this basis.

The Rio del Oro Specific Plan project is located in the City of Rancho Cordova in the eastern portion of Sacramento County. The county as a whole must be considered for the purpose of evaluating land use impacts on a cumulative level. Development anticipated by the SACOG Sacramento Region Blueprint and the City General Plan Land Use Element and Land Use Map will change the intensity of land uses in the region. Future projects will increase development and provide additional housing, employment, shopping, and recreational opportunities.

Future growth under cumulative conditions may result in a variety of land use impacts such as consistency with land use plans and land use incompatibility. Impacts involving adopted land use plans or policies and zoning generally would not combine to result in cumulative impacts. The determination of significance for impacts related to these issues, as described by Appendix G of the State CEQA Guidelines, and referenced earlier in this section, is whether a project would conflict with any applicable land use plan or policy adopted for the purpose of reducing or avoiding environmental impacts. Such a conflict is site-specific; it is addressed on a project-by-project basis. Implementing the project would not result in significant land use planning impacts, and the project's ultimate consistency with local land use plans, policies, and zoning is ensured through entitlements to revise the City General Plan and Zoning Ordinance. Further, planned projects in Rancho Cordova are apparently consistent with environmental plans and policies, to the extent that proposed land uses have been identified. Because no land use impacts would occur on a project-specific basis, the project would not contribute to any potential cumulative land use impacts.

Development of the project would change the site from rural, undeveloped land to urban land uses. With the development of large planned projects (e.g., Sunrise Douglas Community Plan/SunRidge Specific Plan, Grantline West, Easton Master Planned Community), much of the remaining open space within Rancho Cordova is expected to be converted to other land uses. The project would contribute cumulatively to this impact by changing the project site from rural, undeveloped land to urban land uses; therefore, the impact is considered cumulatively considerable (i.e., significant) when considered along with past urban development and planned future development proposed in Rancho Cordova, the surrounding communities, and the county as a whole.

### 3.1.4 RESIDUAL SIGNIFICANT IMPACTS

The project would not convert land identified as Important Farmland or cancel Williamson Act contracts. With implementation of the mitigation measures described above, project implementation would not result in any residual significant impacts directly related to land use. However, residually significant impacts would remain from the development of schools; because detailed site plans are not available, no feasible mitigation can be identified at this time to ensure that the CDE minimum criteria are met. Additionally, an ultimate level of significance of this impact cannot be determined at this time. However, until a detailed site plan is available and

FCUSD conducts a separate, site-specific environmental review, the impacts must be assumed to remain significant and unavoidable.

Additionally, the City would determine whether conflicts between the project and the SACOG Preferred Blueprint Scenario would translate into potentially significant impacts. The City would carefully consider whether implementation of the project or alternatives under consideration would result in the loss of an opportunity to accomplish a long-term environmental benefit or to minimize a long-term environmental impact. For these reasons, this impact must be assumed to remain significant and unavoidable.

## **3.2 POPULATION, EMPLOYMENT, AND HOUSING**

### **3.2.1 AFFECTED ENVIRONMENT**

#### **POPULATION**

Because the City of Rancho Cordova (City) was not incorporated at the time of the 2000 U.S. Census, the U.S. Census Bureau determined the population of Rancho Cordova using census tracts. The data from the 2000 U.S. Census indicated that the population of the city was 48,731 in 1990 (U.S. Census Bureau 2000). The City has since conducted an analysis to calibrate the available data to the city limits using the 2000 census block groups, blocks, and tracts in relation to the city-limit boundary. This analysis determined that the population in the city limits was 53,065 in 2000 (Jordan, pers. comm., 2004).

The *Rancho Cordova General Plan* (City General Plan) reflects an approach that combines specific land use designations in some areas of Rancho Cordova and more general descriptions of land uses in areas planned for future growth (Planning Areas). Projections included in the City's Land Use Element are based on assumptions relating to existing, proposed, and approved project boundaries, including the City's Planning Areas; location; proposed and existing land uses; and geographic features. These projections are for full buildout of the city in 2030. The City General Plan Planning Area consists of the current city limits and surrounding parts of unincorporated Sacramento County, and had a population of approximately 93,402 in 2000 (City of Rancho Cordova 2006). Population growth within Rancho Cordova and its sphere of influence is projected to continue. Based on projections provided by the City, the population within the City and its Planning Areas would be approximately 310,568 people by 2030. Actual projections may potentially be higher or lower when more detailed project descriptions are developed for these Planning Areas.

#### **HOUSING**

The 2000 U.S. Census reflects Rancho Cordova as a community with growing housing values, a low vacancy rate, and relatively small households. The U.S. Census Bureau reports that the number of housing units in Rancho Cordova increased from 35,990 in 1990 to 37,811 in 2000 (U.S. Census Bureau 2000). The city's housing growth rate was approximately 4.8%, with the supply and composition of housing changing very little in this 10-year period. The number of housing units in Rancho Cordova is anticipated to increase with the approval of large-scale development plans and the construction of new and proposed residential projects. Median home prices within the city increased by 23.2% in a 1-year period (December 2003 to December 2004), from \$233,088 to \$303,500 (Sacramento Bee 2005). Based on existing, planned, and approved projects, the number of housing units is estimated to increase to approximately 126,241 by 2030 at full buildout of Rancho Cordova (City of Rancho Cordova 2006).

According to the California Department of Housing and Community Development (HCD) (2000), a housing vacancy rate of 5% is considered normal. Vacancy rates below 5% indicate a housing shortage in a community. The U.S. Census Bureau reports that Rancho Cordova had a vacancy rate of 2.2% for owner-occupied units and 3.8% for rental units in 2000. Similarly, Sacramento County had a vacancy rate of 1.4% for owner-occupied units and 4.8% for rental units in 2000. These vacancy rates indicate that both the city and county currently experience a tight housing market and a housing shortage.

#### **Regional Housing Needs Allocation**

A Regional Housing Needs Plan (RHNP) is mandated by the State of California (Government Code Section 65584) for regions to address housing issues and needs based on future growth projections for the area. The RHNP is developed by the Sacramento Area Council of Governments (SACOG) and allocates to cities and counties their "fair share" of the region's projected housing needs based on household income groupings over the 5-year planning period for each specific jurisdiction's Housing Element. The RHNP also identified and quantifies the existing housing needs for each jurisdiction.

Income Grouping	Existing Housing Units (2000)	Projected Housing Units (2007)	New Housing Units Required
Very low	5,366	5,925	559
Low	4,090	4,497	407
Moderate	4,349	4,855	506
Above moderate	6,737	8,076	1,339
<b>Total</b>	<b>20,542</b>	<b>23,353</b>	<b>2,811</b>
Source: SACOG 2001			

SACOG anticipates that a total of 23,353 housing units (including existing units) would be required for Rancho Cordova during the current planning period (2000–2007) to meet regional housing needs. In January 2000, SACOG’s estimated number of existing housing units was 20,542, with an additional 2,811 new housing units required by 2007 (Table 3.2-1).

### **JOBS/HOUSING BALANCE**

The concept of jobs/housing balance presumes that the environment and quality of life in a given area benefit when the area has a balance between its housing supply and its employment base. In the broadest sense, the balance of jobs and housing in a metropolitan region is defined as provision of an adequate supply of housing to house workers employed in a defined geographic area, such as a community, a city, or other subregion. Alternatively, a jobs/housing balance can be defined as adequate provision of employment in a defined area that generates enough local workers to fill the housing supply. The opportunity to live close to the workplace afforded by providing housing close to jobs should translate to lower congestion and commute times by eliminating the necessity for long-distance commutes. It also provides increased opportunities to use transit, bike, or walk to work in lieu of driving. An area that has too many jobs relative to its housing supply is likely (in the absence of offsetting factors) to experience substantial in-commuting, relatively rapid escalations in housing prices, and intensified pressure for additional residential development. Conversely, if an area has relatively few jobs in comparison to the number of employed residents, many of the workers are required to commute to jobs outside their area of residence. Commuting results in more traffic congestion, air quality degradation, and noise generation. For the purpose of this analysis, the geographic area is defined as Sacramento County and the City of Rancho Cordova and the City’s Planning Areas, and the jobs/housing balance is calculated and discussed specifically for each of these areas.

The simplest measure of jobs/housing balance is an index based on the ratio of employed residents (which is influenced by the number of homes) to jobs in the area, with an index of 1.0 indicating a jobs/housing balance. An index below 1.0 indicates that the area has more jobs than employed residents and may suggest that many employees are commuting in from outside the community. An index above 1.0 indicates that the area has more employed residents than jobs and may suggest that many residents are commuting to jobs outside the community. Imbalance is often a result of local land use policy; therefore, long-term job uses and housing in an urban area should eventually equalize with good planning practices, and thus reduce commuting.

It should be noted that jobs/housing indices are more useful for examining the potential for “self-containment” at the regional level than for determining whether this self-sufficiency actually exists in a given community. Balance involves more than matching numbers of housing units and numbers of jobs. Even if communities have a statistical balance between jobs and housing, they are still very likely to experience in-commuting and out-commuting, given the variety and dispersed nature of employment and residential opportunities elsewhere in the region and the high level of mobility offered by automobiles. Trip-making decisions, including the choice of mode, are based on many factors. In the most rational scenario, mode choice is based on the relative time, cost, and availability of alternative transportation modes. However, mode choice is not simply the result of a rational

decision between equally weighed travel tradeoffs. Based on theory and empirical research, perceived cost, household characteristics, and land use also affect mode choice. Additional factors shape the context in which people make trip decisions, including the fact that two-income households usually work in different locations; frequent job turnover reduces the ability to locate with reference to one’s workplace; and factors other than jobs access, such as quality of schools, housing prices, and access to other amenities influence residential location choices as much as or more than proximity to employment. (City of Boulder 2002.)

## Sacramento County

The anticipated trend in the jobs/housing index for Sacramento County, based primarily on data from the County of Sacramento (County), is shown in Table 3.2-2.

	Year				
	1990	2000	2010	2015	2025
Employment (number of jobs) <sup>a</sup>	457,591	561,728	633,584	694,531	753,641
Housing units <sup>a</sup>	417,574	473,211	518,430	567,740	612,752
Households <sup>a</sup>	394,530	453,400	496,354	543,030	585,802
Employed residents	485,063 <sup>b</sup>	545,921 <sup>b</sup>	605,552 <sup>c</sup>	662,497 <sup>c</sup>	714,678 <sup>c</sup>
Jobs/Housing Index <sup>d</sup>	1.06	0.97	0.96	0.95	0.95

<sup>a</sup> Source: SACOG 2001  
<sup>b</sup> Source: U.S. Census Bureau 2002  
<sup>c</sup> Assumes that the ratio of number of employees per household would remain at 1.22 through 2025 (sources: SACOG 2001, County of Sacramento 2004).  
<sup>d</sup> Jobs/Housing Index = employed residents/number of jobs.

As shown in Table 3.2-3, the jobs/housing index for Sacramento County decreased from 1.06 in 1990 to an estimated 0.97 in 2000. This indicates that from 1990 to 2000, the ratio of jobs to employed residents was nearly equal. The jobs/housing index for the county is projected to remain relatively constant, equaling 0.95 in 2025. This indicates a near balance between housing and employment in the future.

## City of Rancho Cordova

The anticipated trend in the jobs/housing index for Rancho Cordova, based primarily on data from SACOG and the City, is shown in Table 3.2-3. Estimates of past employment and housing units were forecast by SACOG for 1990 and 2000 before incorporation of Rancho Cordova. These projections were based on extrapolations of historical growth trends and did not account for some of the specific projects planned in the city. Estimates of future employment and housing units for 2010 and 2030 were determined by the City and include the General Plan Planning Area, which consists of the current city limits and surrounding parts of unincorporated Sacramento County.

As shown in Table 3.2-3, the jobs/housing index for Rancho Cordova decreased from 1.55 in 1990 to an estimated 0.47 in 2000. This indicates that the imbalance between housing and jobs in the city shifted from 1990 to 2000, as employment growth outpaced housing growth. These indices show that Rancho Cordova has more jobs than employed residents, that the city supports a net in-commuting population, and that the condition is intensifying.

The jobs/housing index for Rancho Cordova is projected to increase to 0.62 in 2010 and remain approximately the same through 2030. These indices show a decreasing imbalance between housing and employment by 2010, and a decreased expectation of residents commuting to the city for employment. Although the jobs/housing balance would improve by the year 2010, Rancho Cordova would remain highly job rich.

**Table 3.2-3  
Historic and Projected Jobs/Housing Balance for the City of Rancho Cordova (1990–2025)**

	Year			
	1990 <sup>a</sup>	2000 <sup>a</sup>	2010 <sup>b</sup>	2030 <sup>b</sup>
Employment (number of jobs)	14,300	94,180	113,878	215,609
Housing units	19,072	37,811	60,122	126,241
Households	18,156	36,299	57,717	121,191
Employed residents	22,150 <sup>c</sup>	44,284 <sup>c</sup>	70,415 <sup>d</sup>	147,853 <sup>d</sup>
Jobs/Housing Index <sup>e</sup>	1.55	0.47	0.62	0.68

<sup>a</sup> Source: SACOG 2001  
<sup>b</sup> Source: City of Rancho Cordova 2006; Jordan, pers. comm., 2004  
<sup>c</sup> Source: U.S. Census Bureau 2002  
<sup>d</sup> Assumes ratio of number of employees per household would remain at 1.22 throughout 2025 (Sources: SACOG 2001, County of Sacramento 2004).  
<sup>e</sup> Jobs/Housing Index = employed residents/number of jobs.

Projections included in the City’s Land Use Element are based on assumptions relating to existing, proposed, and approved project boundaries in the city limits and the City’s Planning Areas; location; proposed and existing land uses; and geographic features. Using the projected number of housing units (126,241 units) and the projected number of jobs (215,609 jobs), the jobs/housing index would be 0.67 in 2030 at full buildout of the city. This indicates a continuing imbalance in Rancho Cordova, with employment growth outpacing housing growth.

**EMPLOYMENT**

Employment growth is one of the primary determinants of housing demand. Working-age individuals will often choose a place to live based on employment prospects in the local area. Therefore, employment trends are an important indicator of housing demand. The rate of employment growth, and the types of jobs most likely to be created, would determine how much housing would be needed by type and cost. For example, an economy based on seasonal tourism will generate different housing needs for local workers than an economy based on government, education, research, and technology.

**Sacramento County**

In the county as a whole there were 527,843 jobs in 1990 and 587,086 in 2000 (U.S. Census Bureau 2002). Between 1990 and 2000, business service firms added nearly 38,000 jobs to the county’s economy. Manufacturing firms added another 21,000 jobs, followed by engineering and management service firms at nearly 5,000 jobs. SACOG projects that unincorporated Sacramento County experienced an annual increase of 2,661 jobs between 2000 and 2005, or about 13,000 jobs over 5 years. Annual job growth is expected to accelerate between 2005 and 2015 to more than 4,000 jobs per year and then decline to about 1,400 jobs per year by 2025. The rate of projected job growth in the unincorporated area, about 1%, is below the projected countywide level of 2.5% between 2000 and 2005. Much of the projected job growth is expected to occur in employment centers located within the newly incorporated City of Rancho Cordova and the City of Elk Grove (City of Rancho Cordova 2005a).

The Sacramento County labor market is dominated by public agency employment, services, and retail/wholesale trades. Of the total employment, 32% was in nonfinancial services, 28% in government, 20% in retail and wholesale trades, 12% in goods-producing industries, 7% in financial/insurance/real estate services, and 1% in farming. The California Employment Development Department found that among all employers (public and private), local government agencies, health care and related services firms, educational establishments, and technology firms are the major employers in the Sacramento region.

## **City of Rancho Cordova**

In 2000, employment in Rancho Cordova was approximately 24,435 persons. The largest employment industry in the city was education, which employed approximately 3,617 people or roughly 15% of the workforce population (U.S. Census Bureau 2002). The other major employment sectors include professional management and administrative, manufacturing, retail trade, finance, real estate, and insurance. The city's strong employment base equates to a jobs/housing balance of 3:1, meaning that there are three job opportunities in Rancho Cordova for every one household. This indicates that an imbalance exists between housing and jobs in Rancho Cordova, with employment growth outpacing housing growth, and that the city has more jobs than employed residents. Based on the current employment totals and projections, Rancho Cordova would have approximately 215,609 jobs by 2030 (City of Rancho Cordova 2005b.).

### **3.2.2 REGULATORY FRAMEWORK**

#### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no federal plans, policies, regulations, or laws related to population, housing, and employment that apply to the proposed project or alternatives under consideration.

#### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no state plans, policies, regulations, or laws related to population, housing, and employment that apply to the proposed project or alternatives under consideration.

#### **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES**

##### **Rancho Cordova General Plan**

Goals and policies from the City General Plan relating to population, housing, and employment that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### **3.2.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines), a population, employment, and housing impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ induce substantial unplanned population growth in an area, either directly (by proposed new homes and businesses) or indirectly (through the extension of roads or other infrastructure);
- ▶ generate a substantial demand for new housing, the construction of which could cause significant environmental impacts; or
- ▶ displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

#### **ANALYSIS METHODOLOGY**

The examination of population, employment, and housing conditions in this section is based on information obtained from review of the plans for the proposed project and alternatives under consideration and review of

available population, employment, and housing projections from the City General Plan, SACOG, the U.S. Census, and other sources.

Specific indirect impacts associated with increased population, housing, and employment, such as traffic congestion, air quality degradation, and noise generation, are addressed in each technical section of this draft environmental impact report/draft environmental impact report (DEIR/DEIS) as appropriate. These technical sections provide a detailed analysis of other relevant environmental effects as a result of development of the project; therefore, indirect impacts are not discussed further in this section.

Population projections for Rancho Cordova were not included in the *County of Sacramento General Plan* because the City was not incorporated at the time the document was updated in 2000. Estimates of the future population as forecast by different planning processes used by SACOG and the City vary widely depending on the assumptions used in the projections. The SACOG estimates (completed in 2000 before incorporation of Rancho Cordova) were based on extrapolations of historical growth trends and did not account for some of the specific projects planned in the city. SACOG projections included unincorporated areas within the City's sphere of influence. SACOG does not include population projections beyond 2025.

Because the City was not incorporated at the time of the 2000 U.S. Census, the Census Bureau determined the city's population using census tracts. The City has since conducted an analysis to calibrate the available data to the city limits using the 2000 census block groups, blocks, and tracts in relation to the city limit boundary (Jordan, pers. comm., 2004). The City General Plan reflects an approach that combines specific land use designations in some areas of the city and more general descriptions of land uses in areas planned for future growth (Planning Areas). Projections included in the City's Land Use Element are based on assumptions relating to existing, proposed, and approved project boundaries, including the City's Planning Areas; location; proposed and existing land uses; and geographic features. These projections are for full buildout of Rancho Cordova in 2030. Therefore, the City's projections were considered more accurate than SACOG's projections for analyzing impacts on population and housing.

The project includes new housing that would result in direct increases in population at the project site in Rancho Cordova over the 25- to 30-year buildout period. In addition, the project provides for several types of development that would provide new employment opportunities, including office/commercial, retail shopping center, and restaurant uses. The City General Plan provides estimates of future population, employment, and housing from planned development in 2030. The City's projections were used for the analysis of program level impacts on population and employment generated by the project.

For the purposes of this analysis, it was assumed that Phase 1 buildout would occur in 2014. The City provided projections for population, employment, or housing for conditions in 2010. Projected population and employment generated by Phase 1 were compared to City estimates.

The number of jobs generated by the project was calculated by Fehr & Peers Transportation Consultants using City standards for total employees per acre based on land use type. Total employees were calculated from acreages for each type of land use (i.e., shopping center, business park, industrial park, and offices).

The jobs/housing balance indices in this analysis were calculated as follows:

- ▶ Total number of dwelling units x 0.96 (vacancy rate multiplier based on U.S. Census data) = number of dwelling units occupied.
- ▶ Number of dwelling units occupied x 1.22 (SACOG employment multiplier for estimated number of employees per household) = number of employed residents per household.
- ▶ Number of employed residents per household / number of jobs projected = jobs/housing balance index.

This analysis assumes that development of the project alternatives would generate the following numbers of residents, housing units, and jobs:

- ▶ For the Proposed Project Alternative, 7,985 single-family units, 1,896 medium-density units, and 1,720 high-density residential units would be developed for a total of 11,601 new housing units. These residential units are estimated to generate 31,671 new residents in Rancho Cordova and would generate 18,318 new jobs (projected to result in 13,587 employable residents).
- ▶ The High Density Alternative would include development of 9,402 single-family units, 3,486 medium-density units, and 2,600 high-density residential units for a total of 15,488 new housing units. These residential units would generate an estimated 42,282 new residents. Implementation of the High Density Alternative would generate 18,318 new jobs (projected to result in 18,140 employable residents).
- ▶ The Impact Minimization Alternative would include development of 5,162 single-family units, 1,928 medium-density units, and 3,470 high-density residential units for a total of 10,560 new housing units. These residential units would generate an estimated 28,828 new residents. Implementation of the Impact Minimization Alternative would generate 17,517 new jobs (projected to result in 12,368 employable residents).
- ▶ The No Federal Action Alternative would include development of 7,385 single-family units, 1,680 medium-density units, and 1,700 high-density residential units for a total of 10,765 new housing units. These residential units would generate an estimated 29,388 new residents. Implementation of the No Federal Action Alternative would generate 14,648 new jobs (projected to result in 12,597 employable residents).

## IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

### Program Level Impacts and Mitigation Measures

<b>IMPACT 3.2-1</b>
-------------------------

**Temporary Increase in Population and Housing Demand during Construction.** *Project implementation would generate a temporary increase in employment and subsequent housing demand in Rancho Cordova from construction jobs.*

PP, HD, IM,  
NF

Project construction activities would occur at intervals throughout the planning horizon of the project. A greater number of construction workers would be employed during peak construction periods (determined by market demand and overall economic conditions), while fewer construction workers would be employed during nonpeak periods. Each development phase would likely be constructed as several small projects that would be ongoing in each development phase. For example, roads and utilities, a housing development, a commercial center, and a detention basin could all be constructed simultaneously. It is estimated, based on prior analyses of similar projects, that the project would generate approximately 500 construction jobs during the peak construction period. According to the latest labor data available from the U.S. Census Bureau (2000), 1,781 residents in Rancho Cordova and 37,223 residents in Sacramento County are employed in the construction industry. These existing numbers of residents in the city and county who are employed in the construction industry would likely be sufficient to meet the demand for construction workers that would be generated by the project. Because construction workers serving the project can be expected to come from Rancho Cordova itself and from nearby communities in Sacramento County, neither substantial population growth nor an increase

in housing demand in the region is anticipated as a result of these jobs. Furthermore, if some construction workers from outside the region were employed at the project site, the temporary nature of the work supports the conclusion that these workers would not typically change residences when assigned to a new construction site; substantial permanent relocation of these workers to the area is not anticipated. Therefore, the project would not be expected to generate the need for substantial additional housing in Rancho Cordova during construction. Because of these conditions, the temporary **direct** impact related to increased population growth and housing demand associated with project construction is considered **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Teichert currently employs enough people to oversee the mining activities. In the future, the City expects to receive an Implementation Permit application from Granite Construction Company to remove additional dredge tailings from the central portion of the Rio del Oro project site. Because Teichert and Granite Construction Company would have a sufficient number of employees to oversee future mining activities, there would be no additional employees hired, no population growth, and no need for additional housing or goods and services.

No construction activities would occur at the project site under the No Project Alternative and no construction workers would be needed; thus, **no direct** or **indirect** impacts would result. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.2-2**

**Increased Population Growth.** *Project implementation would result in the development of new residential units, which would cause a direct increase in population.*

PP

The population of Rancho Cordova on January 1, 2000, was 93,402 persons. Based on City projections, the population would be approximately 144,710 people by 2010 and 272,054 people by 2030. This is approximately 51,308 more persons by 2010 and 178,652 more persons by 2030 than in 2000. These projections include the estimated population expected to be generated by the Rio del Oro project.

Implementation of the Proposed Project Alternative could directly induce population growth in Rancho Cordova from construction of new homes and businesses. The Proposed Project Alternative would generate approximately 31,671 new residents during a 25- to 30-year period (2000 to 2025–2030) and contribute to the estimated population increases expected in the city (Table 3.2-4). Comparing the new residents generated under this alternative (31,671) to the estimated total increase in population in 2030 (178,652), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of the Proposed Project Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

**Table 3.2-4  
Rio del Oro Project Residential Population Projections (Program)**

Land Use Type	Acres				du/ac <sup>1</sup>				Units				Residents <sup>2</sup>			
	PP	HD	IM	NF	PP	HD	IM	NF	PP	HD	IM	NF	PP	HD	IM	NF
Single-Family Residential	1,597	1,597	1,032.5	1,477	5	6	5	5	7,985	9,402	5,162	7,385	21,799	25,667	14,092	20,161
Medium-Density Residential	237	249	241	210	8	12	8	8	1,896	3,486	1,928	1,680	5,176	9,517	5,263	4,586
High-Density Residential	86	104	173.5	85	20	25	20	20	1,720	2,600	3,470	1,700	4,696	7,098	9,473	4,641
<b>Total</b>	<b>1,920</b>	<b>1,950</b>	<b>1,447</b>	<b>1,772</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>11,601</b>	<b>15,488</b>	<b>10,560</b>	<b>10,765</b>	<b>31,671</b>	<b>42,282</b>	<b>28,828</b>	<b>29,388</b>

<sup>1</sup> du/ac = dwelling units per acre; PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative.

<sup>2</sup> Based on the U.S. Census data for 2000, the City averaged 2.73 persons per dwelling unit (City of Rancho Cordova 2005a).

Source: G. C. Wallace 2005, 2006; data provided by EDAW in 2006

Because the Proposed Project Alternative would generate population growth that does not exceed estimates in the City General Plan, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts through land conversions, commitment of resources, and other mechanisms. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections of this DEIR/DEIS. Potential inconsistencies with local planning documents that may lead to significant environmental impacts are also evaluated in Appendix F. However, inconsistencies solely between planned and anticipated population growth as described here would not cause significant environmental effects. Therefore, in this context, this impact is considered **direct** and **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts.

#### HD

Implementation of the High Density Alternative could directly induce population growth in the city from construction of new homes and businesses. The High Density Alternative would generate approximately 42,282 new residents during a 25- to 30-year period (2000 to 2025–2030) and contribute to the estimated population increases expected in the city (Table 3.2-4). Comparing the new residents generated under this alternative (42,282) to the estimated total increase in population in 2030 (178,652), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of the High Density Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

Because the High Density Alternative would generate population growth that does not exceed estimates in the City General Plan, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts on the environment through land conversions, commitment of resources, and other mechanisms. Because the High Density Alternative would generate 10,611 more residents than the Proposed Project Alternative, it is likely that direct impacts associated with development would be greater. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections in this DEIR/DEIS. Therefore, in this context, this impact is considered **direct** and **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts. *[Greater]*

#### IM

Implementation of the Impact Minimization Alternative could directly induce population growth in the city from construction of new homes and businesses. The Impact Minimization Alternative would generate approximately 28,828 new residents during a 25- to 30-year period (2000 to 2025–2030) and contribute to the estimated population increases expected in the city (Table 3.2-4). Comparing the new residents generated under this alternative (28,828) to the estimated total increase in population in 2030 (178,652), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of the Impact Minimization Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

Because the Impact Minimization Alternative would generate population growth that does not exceed estimates in the City General Plan, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental

impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts on the environment through land conversions, commitment of resources, and other mechanisms. Because the Impact Minimization Alternative would generate 2,843 fewer residents than the Proposed Project Alternative, it is likely that direct impacts associated with development would be lesser. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections in this DEIR/DEIS. Therefore, in this context, this impact is considered **direct** and **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts. *[Lesser]*

NF

Implementation of the No Federal Action Alternative could directly induce population growth in the city from construction of new homes and businesses. The No Federal Action Alternative would generate approximately 29,388 new residents during a 25- to 30-year period (2000 to 2025–2030) and contribute to the estimated population increases expected in the city (Table 3.2-4). Comparing the new residents generated under this alternative (29,388) to the estimated total increase in population in 2030 (178,652), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of the No Federal Action Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

Because the No Federal Action Alternative would generate population growth that does not exceed estimates in the City General Plan, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts on the environment through land conversions, commitment of resources, and other mechanisms. Because the No Federal Action Alternative would generate 2,283 fewer residents than the Proposed Project Alternative, it is likely that direct impacts associated with development would be lesser. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections in this DEIR/DEIS. Therefore, in this context, this impact is considered **direct** and **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts. *[Lesser]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. No population would be generated because mining would not involve the construction of housing.

No population increase would occur under the No Project Alternative because no residential housing would be constructed; thus, **no direct** or **indirect** impacts would result. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

### Project Level (Phase 1) Impacts and Mitigation Measures

IMPACT  
3.2-3

Temporary Increase in Population and Housing Demand during Construction of Development Phase 1. *The project would generate a temporary increase in employment and subsequent housing demand in Rancho Cordova from construction jobs during the peak construction periods for development Phase 1.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.2-1 for further discussion of this impact.

**IMPACT  
3.2-4**

**Increased Population Growth.** *Development Phase 1 would include construction of new residential units, which would result in a direct increase in population.*

PP

The population of Rancho Cordova on January 1, 2000, was 93,402 persons. Based on City projections, the population would be approximately 144,710 people by 2010 and 272,054 people by 2030. This is approximately 51,308 more persons by 2010 and 178,652 more persons by 2030 than in 2000. These projections include the estimated population expected to be generated by the Rio del Oro project.

Implementation of development Phase 1 under the Proposed Project Alternative could directly induce population growth in the city from construction of new homes and businesses. Development Phase 1 implementation would generate approximately 8,174 new residents at the buildout of Phase 1 (2014) and contribute to the estimated population increases expected in Rancho Cordova (Table 3.2-5). Comparing the new residents generated under this alternative (8,174) to the estimated total increase in population in 2010 (144,710), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of Phase 1 development under the Proposed Project Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

Because implementation of development Phase 1 under the Proposed Project Alternative would generate population growth that does not exceed estimates in the City General Plan, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts on the environment through land conversions, commitment of resources, and other mechanisms. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections in this DEIR/DEIS. Therefore, in this context, this impact would be considered **direct** and **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts.

HD

Implementation of development Phase 1 under the High Density Alternative could directly induce population growth in the city from construction of new homes and businesses. Development Phase 1 implementation would generate approximately 10,686 new residents at the buildout of Phase 1 (2014) and contribute to the estimated population increases expected in Rancho Cordova (Table 3.2-5). Comparing the new residents generated under this alternative (10,686) to the estimated total increase in population in 2010 (144,710), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of development Phase 1 under the High Density Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

Implementation of development Phase 1 under the High Density Alternative would generate population growth that does not exceed estimates in the City General Plan; therefore, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts on the

<b>Table 3.2-5 Rio del Oro Project Residential Population Projections (Phase 1)</b>																
Land Use Type	Acres				du/ac <sup>1</sup>				Units				Residents <sup>2</sup>			
	PP	HD	IM	NF	PP	HD	IM	NF	PP	HD	IM	NF	PP	HD	IM	NF
Single-Family Residential	290	290	97.5	256	5	6	5	5	1,450	1,740	488	1,280	3,959	4,750	1,331	3,494
Medium-Density Residential	113	113.5	97.5	62	8	12	8	8	904	1,362	777	496	2,468	3,718	2,121	1,354
High-Density Residential	32	32.5	127	47	20	25	20	20	640	813	2,540	940	1,747	2,218	6,934	2,566
<b>Total</b>	<b>435</b>	<b>436</b>	<b>322</b>	<b>365</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2,994</b>	<b>3,915</b>	<b>3,805</b>	<b>2,716</b>	<b>8,174</b>	<b>10,686</b>	<b>10,386</b>	<b>7,414</b>
<p>1 du/ac = dwelling units per acre; PP = Proposed Project Alternative, HD = High Density Alternative, IM = Impact Minimization Alternative; NF = No Federal Action Alternative.                  2 Based on the U.S. Census data for 2000, the City averaged 2.73 persons per dwelling unit (City of Rancho Cordova 2005a).                  Source: G. C. Wallace 2005, 2006; data provided by EDAW in 2006</p>																

environment through land conversions, commitment of resources, and other mechanisms. Because development Phase 1 would generate 2,500 more residents under the High Density Alternative than under the Proposed Project Alternative, it is likely that direct impacts associated with development would be greater. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections in this DEIR/DEIS. Therefore, in this context, this impact would be considered **direct** and **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts. *[Greater]*

#### IM

Implementation of development Phase 1 under the Impact Minimization Alternative could directly induce population growth in Rancho Cordova from construction of new homes and businesses. Development Phase 1 implementation would generate approximately 10,386 new residents at buildout (2014) and contribute to the estimated population increases expected in the city (Table 3.2-5). Comparing the new residents generated under this alternative (10,386) to the estimated total increase in population in 2010 (144,710), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of development Phase 1 under the Impact Minimization Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

Implementation of development Phase 1 under the Impact Minimization Alternative would generate population growth that does not exceed estimates in the City General Plan; therefore, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts through land conversions, commitment of resources, and other mechanisms. Because development Phase 1 would generate 2,200 more residents under the Impact Minimization Alternative than under the Proposed Project Alternative, it is likely that direct impacts associated with development would be greater. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections in this DEIR/DEIS. Therefore, in this context, this impact would be considered **direct** and **less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts. *[Greater]*

#### NF

Implementation of development Phase 1 under the No Federal Action Alternative could directly induce population growth in Rancho Cordova from construction of new homes and businesses. Implementation of development Phase 1 would generate approximately 7,414 new residents at buildout (2014) and contribute to the estimated population increases expected in the city (Table 3.2-5). Comparing the new residents generated under this alternative (7,414) to the estimated total increase in population in 2010 (144,710), the project-related estimated increases in population are within the increases in population that would have resulted from the planned residential growth at the project site. Therefore, implementation of development Phase 1 under the No Federal Action Alternative would not generate population growth exceeding projections for Rancho Cordova as a whole.

Implementation of development Phase 1 under the No Federal Action Alternative would generate population growth that does not exceed estimates in the City General Plan; therefore, the project would not result in unplanned population growth in the area. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts through land conversions, commitment of resources, and other mechanisms. Because development Phase 1 would

generate 760 fewer residents under the No Federal Action Alternative than under the Proposed Project Alternative, it is likely that direct impacts associated with development would be less. Direct impacts associated with the development needed to accommodate increased population are evaluated in appropriate sections in this DEIR/DEIS. Therefore, in this context, this impact would be considered **direct and less than significant**. The **indirect** population, employment, and housing impacts of the project are addressed in each issue area as direct impacts. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. No population would be generated because mining would not involve the construction of housing.

Because no housing would be developed under the No Project Alternative, there would be no resulting population increase, and **no direct** or **indirect** impacts would result. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

## CUMULATIVE IMPACTS

Past, present, and probable future projects used for this cumulative analysis are restricted to those projects that have occurred or are planned to occur within the city limits of Rancho Cordova or within nearby areas of Sacramento County. The project is anticipated to contribute jobs in excess of the number of employable residents who would be expected to live on the project site. Depending on the project alternative chosen for development, implementation of the project would include 10,560–15,488 new residential units with an estimated population of 28,828–42,282 new residents at full buildout.

Currently, the City's strong employment base equates to a jobs/housing balance of 3:1, meaning that there are three job opportunities in Rancho Cordova for every one household. This indicates an imbalance between housing and jobs in Rancho Cordova, with employment growth outpacing housing growth, and that Rancho Cordova has more jobs than employed residents. The City General Plan provides estimates of future population, employment, and housing from planned development in 2030. The City General Plan (City of Rancho Cordova 2006) combines specific land use designations in some areas of Rancho Cordova and more general descriptions of land uses in areas planned for future growth. Table 3.2-6 summarizes existing, proposed, and approved projects in the city limits and the City's Planning Areas.

These development projects would result in generation of approximately 126,241 dwelling units, 310,568 residents, and 195,021 potential employees in the city by 2030; development of the Rio del Oro project was included in these projections (County of Sacramento 2004, City of Rancho Cordova 2006). Using the projected number of housing units (126,241 units) and the projected number of jobs (215,609 jobs), the jobs/housing index would be 0.67 in 2030 at full buildout of the city (Table 3.2-3). This indicates a continued imbalance between housing and jobs in Rancho Cordova in 2030, with employment growth outpacing housing growth, and that Rancho Cordova has more jobs than employed residents.

Given this imbalance, jobs generated by the Rio del Oro project are not expected to be filled mostly by the existing resident labor pool. Locally, Rancho Cordova currently has a housing shortage (vacancy rates below 5%), and excess jobs associated with the project would be considered as contributing to this shortage through increased housing demand. Over the long term (year 2030), planned projects are expected to provide housing opportunities and improve the jobs/housing balance; however, the imbalance is expected to remain into the future. Potential environmental effects associated with excess jobs relative to housing supply in the city could result in substantial in-commuting, relatively rapid escalations in

housing prices, and intensified pressure for additional residential development. Indirect effects associated with commuting could include potential increases in traffic congestion, air quality degradation, and noise generation.

<b>Table 3.2-6 Existing, Proposed, and Approved Development in the City of Rancho Cordova and its Planning Areas for Buildout in 2030</b>				
Planning Area	Acreage	Proposed Dwelling Units	Estimated Residential Population	Estimated Employment Population
Potential Buildout in the City	12,527	45,296	111,938	56,515
Aerojet <sup>a</sup>	5,453	0	0	4,570
Countryside/Lincoln Village	700	3,558	8,694	5,715
Downtown	363	2,986	6,479	16,000
East	7,404	10,390	27,781	5,644
Folsom Boulevard	1,652	10,476	22,936	26,704
Glenborough	1,366	4,434	10,344	9,747
Grant Line North	1,847	6,916	16,601	3,634
Grant Line South	2,549	3,667	9,816	3,235
Grant Line West	1,306	3,393	9,043	1,747
Jackson	8,730	5,806	15,457	10,753
Mather	6,353	1,982	5,175	15,841
Rio del Oro (Project)	3,765	11,366	27,987	12,067
SunCreek/Preserve	1,762	9,263	21,236	1,331
Sunrise North	88	630	1,367	1,561
Sunrise South <sup>b</sup>	916	0	0	14,436
Westborough	1,518	6,078	15,714	5,521
<b>Total</b>	<b>58,297</b>	<b>126,241</b>	<b>310,568 <sup>c</sup></b>	<b>195,021</b>
Note: <sup>a</sup> The conceptual land use plan designates the Aerojet Planning Area for light and heavy industrial uses. No residential uses are planned for this area. <sup>b</sup> The conceptual land use plan designated the Sunrise South Planning Area for light and heavy industrial use, commercial/office use, and parks/open space. <sup>c</sup> Housing, population, and employment projections in the City General Plan Land Use Element were based on conceptual land uses for Planning Areas. Actual projections may potentially be higher or lower when more detailed project descriptions are developed for these areas. Source: City of Rancho Cordova 2006				

At a more regional level, the jobs/housing index for Sacramento County was 0.97 in 2000 and is projected to remain greater than 0.95 through 2025. Annual job growth is expected to accelerate between 2005 and 2015 to more than 4,000 jobs per year and then decline to about 1,400 jobs per year by 2025. These jobs/housing indices indicate that the county is projected to remain relatively constant, that the ratio of jobs to employed residents was nearly equal, and that the jobs/housing index would become more balanced as development of the Rio del Oro project and related projects continues in the region. The fact that, at the county level, the jobs/housing balance is close to 1.0 should help minimize any adverse consequences following from an imbalance solely within the boundaries of Rancho Cordova, as the

county number indicates that commuters into Rancho Cordova will include large numbers of Sacramento County residents.

Population growth, by itself, is not considered a significant cumulative effect because it is not an environmental impact. However, the direct and indirect effects discussed above, such as housing and infrastructure needs that are related to population growth, can lead to conversion of land to other uses, the impacts of which are considered in the appropriate sections of this DEIR/DEIS.

### **3.2.4 RESIDUAL SIGNIFICANT IMPACTS**

Impacts associated with population growth and housing demand are considered less than significant. Therefore, there are no residual significant impacts.

## **3.3 ENVIRONMENTAL JUSTICE**

### **3.3.1 AFFECTED ENVIRONMENT**

Environmental justice is defined by the U.S. Environmental Protection Agency (EPA) Office of Environmental Justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” Fair treatment means that “no group of people, including racial, ethnic, or socioeconomic group shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.” Analysis of effects of projects on environmental justice is required by the National Environmental Policy Act (NEPA).

For the purposes of an environmental justice screening, race, ethnic origin, and poverty status were obtained for all of the City of Rancho Cordova (City); part of the city of Sacramento; and all or part of the unincorporated communities of Carmichael, Fair Oaks, Gold River, La Riviera, Rosemont, Arden-Arcade, and North Highlands. These city and unincorporated community boundaries represent a 6-mile radius surrounding the project site, which is the area that is appropriate for consideration pursuant to EPA Guidelines.

The present-day City of Rancho Cordova began as a part of a route used during the Gold Rush by miners departing Sacramento and heading toward the Sierra Nevada foothills in 1848. By the late 19th and the early 20th centuries, agriculture had become the main industry in the region. In 1918, the U.S. Air Force constructed Mills Field, later renamed Mather Field. Mather Air Force Base (AFB) was built to serve as a flight training school. A Strategic Air Command B-52 squadron was assigned to Mather AFB in 1958 and operated until 1989, when the base was decommissioned under the Base Realignment and Closure Act (Mather Field 2004). The closure of the base prompted the County of Sacramento (County) Board of Supervisors to examine the potential for converting the base to a public-use facility. The Air Force transferred the base to the County, and in May 1995 Mather Airport was opened. Other parts of the base were redeveloped for use as housing and a business park.

The name “Rancho Cordova” was formally applied to the area currently known as the City of Rancho Cordova in 1955 when a post office was established. Efforts by local residents to formally establish a city continued over the next 40 years, until Rancho Cordova was incorporated by voter approval in July 2003. At that time, the newly appointed city included more than 55,000 residents.

Existing land use patterns in Rancho Cordova have developed from regional growth patterns, geography, and circulation. The City of Rancho Cordova has recently adopted its General Plan. The City’s vision includes a community that will support a mix of land uses, including public spaces, services, culture, and open space and recreation, in addition to well-planned roadways, public transportation routes, and trails. An integrated network of neighborhoods, villages, and districts will be emphasized as building blocks for the community’s growth and revitalization. City planners hope to create a community with an identifiable look and feel, where the quality of the built environment is reflected in the character of the neighborhoods, the walkable streets, the unified architectural details and landscaping, and the dynamics of the public spaces.

### **3.3.2 REGULATORY FRAMEWORK**

#### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

##### **Executive Order 12898**

The purpose of Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority and Low Income Populations” (1994), is to identify and address the disproportionate placement of adverse environmental, economic, social, or health impacts from federal actions and policies on minority and/or low-income communities. This order requires that planners take into account impacts on minority or low-income populations

when they prepare environmental and socioeconomic analyses of projects or programs that are proposed, funded, or licensed by federal agencies.

Executive Order 12898, signed by President Clinton on February 11, 1994, requires the following:

*To the greatest extent practicable and permitted by law...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. (Section 1-101)*

*Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin. (Section 2-2)*

*Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public. (Section 5-5[c])*

In addition, the presidential memorandum accompanying the Executive Order states that “(e)ach Federal Agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the NEPA [National Environmental Policy Act] of 1969.”

Two documents provide some measure of guidance to agencies required to implement the Executive Order. The first is *Environmental Justice Guidance Under the National Environmental Policy Act*, published by the Council on Environmental Quality (CEQ). The second document, *Final Guidance for Incorporating Environmental Justice Concerns* (published in EPA’s NEPA Compliance Analysis), serves as a guide for incorporating environmental justice goals into preparation of environmental impact statements under NEPA. These documents provide specific guidelines for determining whether there are any environmental justice issues associated with a proposed federal project.

## **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no state plans, policies, regulations, or laws related to environmental justice that are applicable to the proposed project or alternatives under consideration. However, Senate Bill (SB) 115 (Solis, Chapter 690, Statutes of 1999) was signed into law in 1999, and defined environmental justice in statute and established the Governor’s Office of Planning and Research (OPR) as the coordinating agency for state environmental justice programs (Section 65040.12). SB 115 further required the California Environmental Protection Agency (Cal/EPA) to develop a model environmental justice mission statement for boards, departments, and offices within the agency by January 1, 2001 (Public Resources Code Sections 72000–72001).

In 2000, SB 89 (Escutia, Chapter 728, Statutes of 2000) was signed, which complemented SB 115 by requiring the creation of an environmental justice working group and an advisory group to assist Cal/EPA in developing an intra-agency environmental justice strategy (Public Resources Code Sections 72002–72003). SB 828 (Alarcón, Chapter 765, Statutes of 2001) added and modified due dates for the development of Cal/EPA’s intra-agency environmental justice strategy and required each board, department, and office within Cal/EPA to identify and address, no later than January 1, 2004, any gaps in its existing programs, policies, and activities that may impede environmental justice (Public Resources Code Sections 71114–71115).

Assembly Bill (AB) 1553 (Keeley, Chapter 762, Statutes of 2001) required OPR to incorporate environmental justice considerations in the *General Plan Guidelines*. AB 1553 specified that the guidelines should propose methods for local governments to address the following:

- ▶ planning for the equitable distribution of new public facilities and services that increase and enhance community quality of life,
- ▶ providing for the location of industrial facilities and uses that pose a significant hazard to human health and safety in a manner that seeks to avoid overconcentrating these uses in proximity to schools or residential dwellings,
- ▶ providing for the location of new schools and residential dwellings in a manner that avoids proximity to industrial facilities and uses that pose a significant hazard to human health and safety, and
- ▶ promoting more livable communities by expanding opportunities for transit-oriented development.

Although environmental justice is not a mandatory topic in the general plan, OPR is required to provide guidance to cities and counties for integrating environmental justice into their general plans (Section 65040.12[c]) (Governor’s Office of Planning and Research 2003). The 2003 edition of the *General Plan Guidelines* included the contents required by AB 1553 (see pp. 8, 12, 20–27, 40, 114, 142, 144, and 260 of the revised Guidelines).

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no regional or local plans, policies, regulations, or laws related to environmental justice that are applicable to the proposed project or alternatives under consideration.

### **3.3.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

To prove a violation of federal environmental justice principles, the government must demonstrate that the proposed project or alternatives under consideration would cause impacts that are “disproportionately high and adverse,” either directly, indirectly, or cumulatively. To make a finding that disproportionately high and adverse effects would likely fall on a minority or low-income population, three conditions must be met simultaneously: (1) there must be a minority or low-income population in the impact zone; (2) a high and adverse impact must exist; and (3) the impact must be disproportionately high and adverse on the minority or low-income population.

#### **ANALYSIS METHODOLOGY**

According to CEQ and EPA guidelines established to assist federal and state agencies for developing strategies to examine this circumstance, the first step in conducting an environmental justice analysis is to define minority and low-income populations. Based on these guidelines, a minority population is present in a project study area if: (a) the minority population of the affected area exceeds 50%, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. By the same rule, a low-income population exists if the project study area is composed of 50% or more people living below the poverty threshold, as defined by the U.S. Census Bureau, or is significantly greater than the poverty percentage of the general population or other appropriate unit of geographic analysis. The second step of an environmental justice analysis requires a finding of a high and adverse impact. The CEQ guidance indicates that when determining whether the effects are high and adverse, agencies are to consider whether the risks or rates of impact “are significant (as employed by NEPA) or above generally accepted norms.” The final step requires a finding that the impact on the minority or low-income population be disproportionately high and adverse. Although none of the published guidelines define the term

“disproportionately high and adverse,” CEQ includes a nonquantitative definition stating that an effect is disproportionate if it appreciably exceeds the risk or rate to the general population.

As defined in EPA’s *Final Guidance for Incorporating Environmental Justice Concerns*, for the purposes of an environmental justice screening, the study area is an approximately 6-mile radius surrounding the project site. To use a comparable distance in this analysis, data from the U.S. Census Bureau, 2000 Census, for race, ethnic origin, and poverty status were obtained. All census tracts touching on the 6-mile radius were included in the analysis.

## IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

### Program Level Impacts and Mitigation Measures

IMPACT 3.3-1
-----------------

**Potential Effects on Low-Income Populations.** *Project implementation would not create a disproportionate placement of adverse environmental impacts on low-income populations.*

PP, HD, IM,  
NF

According to the year 2000 census tracts (Table 3.3-1), there is one tract out of a total of 59 with a poverty population greater than 50% within 6 miles of the project site. Of the 59 census tracts, 21 have poverty populations greater than 10%. Seven have poverty populations between 20 and 30% of the tract population. Tract 8800 has the highest poverty rate, with 85.8% of the population below the poverty level in the year 2000. The boundary of Tract 8800 corresponds to Mather Field (formerly Mather AFB) and is located about 0.75 mile west of the project site. Since the closure of the base in 1995, this area has undergone substantial redevelopment, including construction of 1,300 new homes from 1999 to 2004, modernization and improvement of streets and infrastructure, commercial development, and the continued use of Mather Airport for general aviation and air cargo (Mather Field 2004). Data from Mather Field indicate that by the year 2000, approximately 2,600 new jobs had been generated by redevelopment activities, and economic development is expected to continue in the future. Poverty rates for Tract 8800 are expected to improve substantially from redevelopment activities. In addition, implementation of the project would not result in a disproportionate effect or directly influence Tract 8800 because of its distance from this area. Therefore, project implementation would not cause a disproportionately high and adverse impact on low-income populations. This would be a **less-than-significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Because the project site and the surrounding lands to the north, east, and south are undeveloped, and land to the west surrounding Mather Field is undergoing economic redevelopment, mining activities would have no effect on low-income populations.

No development would occur under the No Project Alternative that could have a potential impact on a low-income population; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**Table 3.3-1  
Poverty Statistics within 6 Miles of the Project Site**

Census Tract Code	Total Population	Below Poverty Level <sup>1</sup>	Poverty Rate
005701	3,021	128	4.2
005702	4,736	85	1.8
005801	5,249	395	7.5
005803	3,487	159	4.6
005804	2,659	115	4.3
005901	5,333	352	6.6
005902	7,110	755	10.6
006002	4,418	570	12.9
006003	4,605	1,033	22.4
006004	2,393	135	5.6
007413	6,309	2,160	34.2
007503	5,123	1,273	24.8
007504	1,962	368	18.8
007601	6,546	601	9.2
007602	4,333	546	12.6
007701	5,835	924	15.8
007702	4,566	337	7.4
007801	5,446	588	10.8
007802	4,815	614	12.8
007903	4,563	248	5.4
007904	5,116	477	9.3
007905	4,051	290	7.2
007906	3,643	155	4.3
008005	5,199	177	3.4
008006	5,540	178	3.2
008007	3,487	567	16.3
008008	4,415	90	2.0
008009	4,293	366	8.5
008010	4,766	412	8.6
008207	4,488	219	4.9
008403	4,123	122	3.0
008504	4,236	48	1.1
008600	5,307	200	3.8
008701	5,123	31	0.6
008702	3,355	46	1.4
008800	520	446	85.8
008905	4,816	797	16.5
008907	5,198	694	13.4
008908	4,976	799	16.1

**Table 3.3-1  
Poverty Statistics within 6 Miles of the Project Site**

Census Tract Code	Total Population	Below Poverty Level <sup>1</sup>	Poverty Rate
008909	2,146	389	18.1
008910	3,521	280	8.0
008911	2,287	677	29.6
008912	3,347	247	7.4
008913	4,534	732	16.1
009004	3,966	396	10.0
009005	3,226	328	10.2
009006	4,638	584	12.6
009007	2,443	718	29.4
009008	5,314	1,168	22.0
009009	3,886	394	10.1
009103	2,821	478	16.9
009105	2,797	479	17.1
009106	4,087	433	10.6
009107	3,253	156	4.8
009108	3,666	170	4.6
009109	5,082	394	7.8
009110	1,584	448	28.3
009111	5,563	700	12.6
009112	3,592	344	9.6

<sup>1</sup> Figures are for individuals for whom poverty status has been determined.  
Source: U.S. Census Bureau 2000a

**IMPACT  
3.3-2**

**Potential Effects on Minority Populations.** *Project implementation would not create a disproportionate placement of adverse environmental impacts on minority communities.*

PP, HD, IM,  
NF

Analyzing the data across the census tracts in aggregate, the minority population present in the project study area is less than 50%. The Caucasian population is approximately 74%. Minority (non-Caucasian) populations comprise 26.3% of the combined populations of the 2000 census tract data. Table 3.3-2 shows demographic data for these tracts. Therefore, project implementation would not cause a disproportionately high and adverse impact on minority populations. This would be a **less-than-significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Because the project site and the surrounding lands to the north, east, and south are undeveloped, and land to the west surrounding Mather Field is undergoing economic redevelopment, mining activities would have no effect on minority populations.

No development would occur under the No Project Alternative that could have a potential impact on a minority population; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

Table 3.3-2 Race Statistics within 6 Miles of the Project Site									
Census Tract Code	Caucasian	Black	American Indian or Alaskan Native	Asian	Hawaiian or Pacific Islander	Hispanic Origin	Other Race	Two Or More Races	Census Tract Total
005701	2,527	27	8	141	3	235	5	81	3,027
005702	4,260	31	18	110	2	232	13	83	4,749
005801	4,434	62	17	172	17	390	9	173	5,274
005803	3,037	28	5	218	0	130	4	69	3,491
005804	2,282	16	13	196	1	78	1	72	2,659
005901	4,845	144	52	175	12	342	12	125	5,707
005902	5,848	273	44	214	13	610	24	276	7,302
006002	3,358	199	42	134	18	462	13	206	4,432
006003	3,461	223	67	263	29	413	24	190	4,670
006004	2,034	61	9	52	5	208	1	65	2,435
007413	3,584	775	76	450	24	1,028	25	370	6,332
007503	3,286	476	43	516	27	638	12	233	5,231
007504	1,557	130	20	55	16	241	2	87	2,108
007601	5,198	217	40	284	24	513	18	259	6,553
007602	3,604	121	39	151	13	354	4	184	4,470
007701	4,778	177	51	265	12	534	11	208	6,036
007702	3,908	87	15	185	17	228	13	118	4,571
007801	4,591	181	55	154	9	391	14	209	5,604
007802	4,230	165	39	114	8	324	4	132	5,016
007903	3,778	137	26	189	7	312	9	125	4,583
007904	4,416	81	48	123	20	348	9	127	5,172
007905	3,529	80	17	139	9	218	10	73	4,075
007906	3,049	63	128	146	6	257	5	8	3,662
008005	4,328	81	34	320	2	300	3	139	5,207
008006	4,724	86	21	310	18	291	17	109	5,576
008007	2,839	143	11	83	6	280	11	121	3,494
008008	3,920	51	17	160	10	300	6	114	4,578
008009	3,715	51	30	117	4	292	10	119	4,338
008010	4,033	88	37	178	3	304	15	154	4,812
008207	3,836	45	34	162	4	265	13	115	4,474

**Table 3.3-2  
Race Statistics within 6 Miles of the Project Site**

Census Tract Code	Caucasian	Black	American Indian or Alaskan Native	Asian	Hawaiian or Pacific Islander	Hispanic Origin	Other Race	Two Or More Races	Census Tract Total
008403	3,269	87	30	380	11	311	13	123	4,224
008504	3,040	67	8	665	7	257	6	127	4,177
008600	4,550	134	35	160	3	396	4	130	5,412
008701	3,527	73	18	769	8	209	11	100	4,715
008702	2,746	25	4	445	4	125	2	69	3,420
008800	373	118	17	62	20	139	8	177	914
008905	3,214	408	47	349	13	730	6	236	5,003
008907	3,614	398	26	386	13	541	22	235	5,235
008908	3,552	398	36	230	7	593	20	150	4,986
008909	1,409	191	12	224	6	225	8	193	2,164
008910	2,465	260	38	156	16	441	12	184	3,581
008911	1,213	393	17	103	18	418	1	146	2,309
008912	2,374	258	13	230	9	352	11	117	3,364
008913	3,460	295	32	202	6	372	5	432	4,534
009004	2,041	651	30	508	19	533	8	209	3,999
009005	1,834	414	18	341	8	481	10	152	3,258
009006	2,522	691	37	519	17	564	10	300	4,660
009007	1,105	563	10	186	47	459	8	174	2,552
009008	2,995	689	40	326	35	823	13	352	5,273
009009	1,995	408	38	706	40	518	8	190	3,903
009103	1,915	404	8	299	7	425	8	169	3,235
009105	1,676	340	12	220	27	390	1	149	2,815
009106	2,944	269	29	283	19	423	13	146	4,126
009107	2,280	230	7	306	9	352	12	136	3,332
009108	2,348	256	34	454	12	435	8	137	3,684
009109	3,400	404	18	474	11	553	4	232	5,096
009110	685	503	22	97	14	271	0	95	1,687
009111	3,195	449	52	724	26	821	21	339	5,627
009112	1,986	357	38	455	19	518	6	194	3,573
<b>Total</b>	<b>184,716</b>	<b>14,032</b>	<b>1,782</b>	<b>16,035</b>	<b>790</b>	<b>23,193</b>	<b>576</b>	<b>9,372</b>	<b>250,496</b>
<b>Percent</b>	<b>73.7</b>	<b>5.6</b>	<b>0.7</b>	<b>6.4</b>	<b>0.3</b>	<b>9.3</b>	<b>0.2</b>	<b>3.8</b>	<b>--</b>

Source: U.S. Census Bureau 2000b

## Project Level (Phase 1) Impacts and Mitigation Measures

### IMPACT 3.3-3

**Potential Effects on Low-Income Populations.** *Implementation of development Phase 1 would not create a disproportionate placement of adverse environmental impacts on low-income populations.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.3-1 for further discussion of this impact.

### IMPACT 3.3-4

**Potential Effects on Minority Populations.** *Implementation of development Phase 1 would not create a disproportionate placement of adverse environmental impacts on minority communities.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.3-2 for further discussion of this impact.

## CUMULATIVE IMPACTS

Past, present, and probable future projects used for this cumulative analysis are restricted to those projects that have occurred or are planned to occur within the 6-mile radius included in the analysis. Within this radius, Tract 8800 has the highest poverty rate, with 85.8% of the population below the poverty level in the year 2000. The boundary of Tract 8800 corresponds to Mather Field (formerly Mather AFB). Since the closure of the base in 1988 and the opening of Mather Airport in 1995, this area has undergone substantial redevelopment, including construction of 1,300 new homes from 1999 to 2004, modernization, and improvement of streets and infrastructure, commercial development, and the continued use of Mather Airport for general aviation and air cargo (Mather Field 2004). Data from Mather Field indicate that by the year 2000, approximately 2,600 new jobs had been generated by redevelopment activities, and economic development is expected to continue in the future. Poverty rates for Tract 8800 are expected to decrease substantially as a result of new development and redevelopment activities with implementation of the *Mather Airport Master Plan*. Currently, the draft final Master Plan is being reviewed by the County Department of Environmental Review and Assessment pursuant to CEQA. The goal of the Master Plan is to guide development over the next 20 years and to identify the facilities necessary to meet near- and long-term aviation demand. The project and related projects are not anticipated to contribute to disproportionate placement of environmental impacts on low-income and minority populations or communities; therefore, no cumulatively considerable impacts would result.

### 3.3.4 RESIDUAL SIGNIFICANT IMPACTS

All impacts associated with environmental justice are considered less than significant. Therefore, there are no residual significant impacts.

## 3.4 DRAINAGE, HYDROLOGY, AND WATER QUALITY

### 3.4.1 AFFECTED ENVIRONMENT

#### DRAINAGE AND HYDROLOGY

Watersheds are land areas that collect surface runoff and drain to specific marshes, streams, rivers, and lakes, or to the groundwater table. Watersheds can be described in a regional or local context depending upon the scale of the drainage system. The largest watershed in Sacramento County is the Lower Sacramento Watershed (LSW), which is also one of the largest in the United States, covering most of northern California. The LSW drains the Sacramento Valley, the Modoc Plateau, and parts of the Cascade and Sierra Nevada Mountain Ranges, ultimately via the Sacramento River. Tributaries of the LSW include the Feather, Yuba, Pit, and American Rivers.

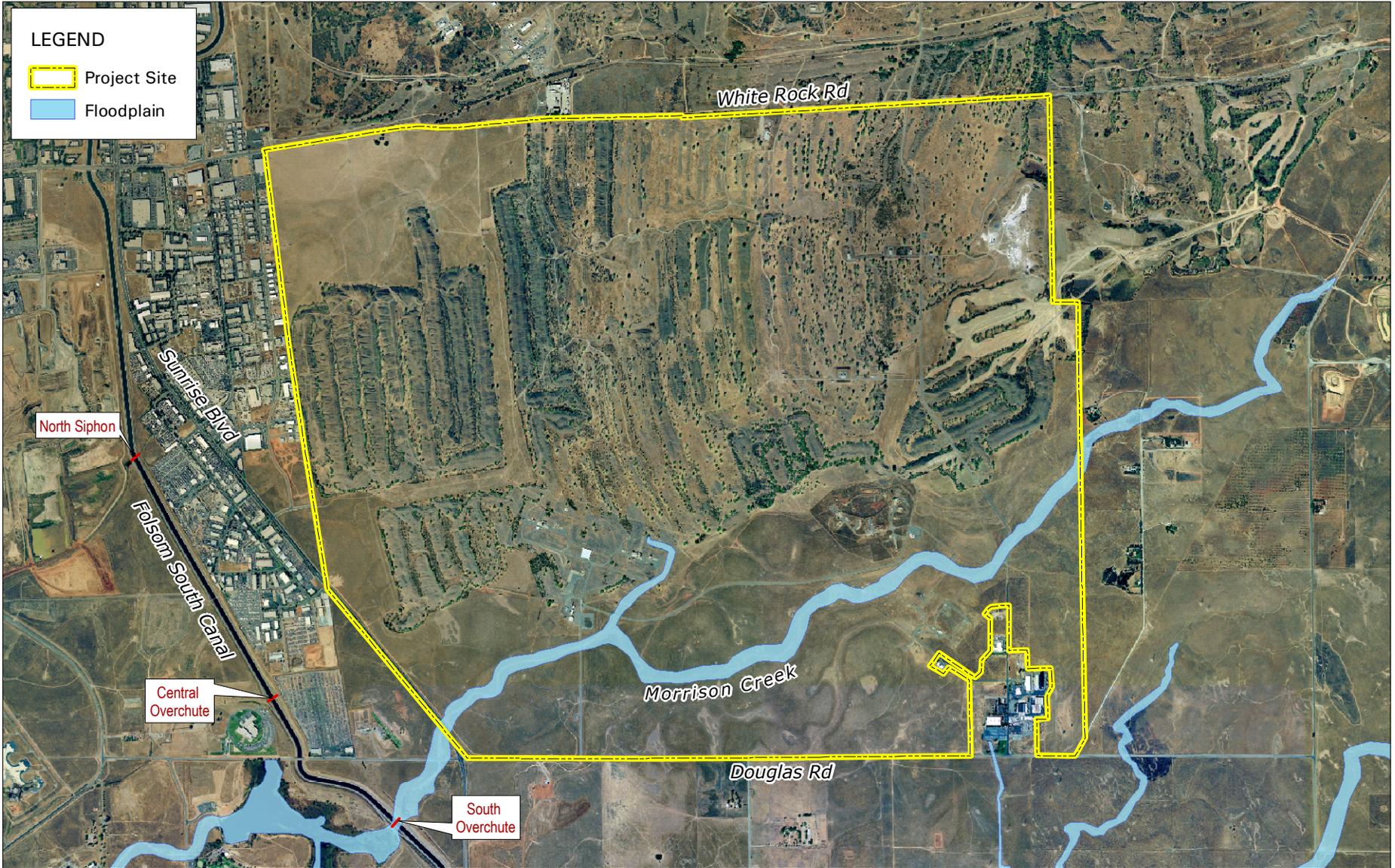
The project site lies fully within the greater Morrison Creek watershed (Wood Rodgers 2005), one of many subwatersheds within the LSW. Morrison Creek flows generally west from the Sierra Nevada foothill region to Laguna Creek near Interstate 5 (I-5); Laguna Creek then flows to the Sacramento River. In the project vicinity, the south branch of Upper Morrison Creek flows west-southwest through the southern portion of the project site, as shown in Exhibit 3.4-1.

Stormwater runoff from the site flows generally westward toward Sunrise Boulevard just upstream of the Cordova Industrial Park development area. Flow eventually reaches and crosses (via overchutes and culvert/siphon) the Folsom South Canal (Canal), an irrigation and water supply system owned and operated by the U.S. Bureau of Reclamation. Runoff from the site currently crosses the Canal at four locations (Wood Rodgers 2005).

Upper Morrison Creek exits the project site via an existing box culvert beneath Sunrise Boulevard near the intersection with Douglas Road. Flow is conveyed downstream in a partially improved drainage canal excavated within the historical Morrison Creek streambed. Flow is conveyed beneath Douglas Road through a pair of 60-inch pipe culverts and continues to an overchute (the “south overchute”) at the Canal (Wood Rodgers 2005). Beyond the Canal, discharge empties into Mather Lake. There is an existing drainage constraint at the Douglas Road culvert, resulting in flooding of both Douglas Road and Sunrise Boulevard during major storm events.

The County of Sacramento (County) has studied the local hydrology and developed hydraulic models of the LSW system. However, the Morrison Creek watershed has not been previously studied by the Federal Emergency Management Agency (FEMA) for the purpose of drafting an effective Flood Insurance Study (FIS) or Flood Insurance Rate Map (FIRM). The California Department of Water Resources (DWR), under the Awareness Flood Mapping Program, has recently prepared area floodplain maps. However, existing floodplains mapped under the Awareness Program provide only approximate possible flood conditions because they lack detailed stream topography (Wood Rodgers 2003a). These floodplains are shown simply as flood-prone areas without specific depth and other flood hazard data. DWR’s effort was directed toward advising the public and other interested parties of the approximate flooding risks present in these unmapped watersheds. The Awareness Flood Mapping Program is not used as a regulatory tool (Wood Rodgers 2005). Exhibit 3.4-1 presents the Awareness Program’s floodplain delineation of Morrison Creek and its tributaries in the project vicinity.

Stream channels in the project vicinity are incised within the area’s rolling topography, and the defined floodways and floodplains are narrow and generally confined to the stream channels. However, localized flooding occurs or may occur at some off-site roadways adjacent to (both upstream and downstream of) the project site, including White Rock Road to the north and Douglas Road and Sunrise Boulevard to the west.

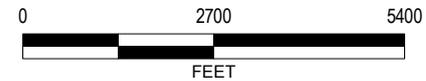


Source: Wood Rodgers 2005

## Awareness Floodplain Map

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 X 3T089.01 01/06

EXHIBIT 3.4-1



## Drainage and Conveyances

Both natural and improved drainage conveyances are located within the project site boundary. Off-site flows entering the project site from the north are conveyed through several pipe culverts beneath White Rock Road. Although much of the area upstream of the project site consists of piles of dredge tailings, the culverts beneath White Rock Road are undersized, and flows from the north could overtop White Rock Road and enter the project site at locations other than those near existing culverts. From the east, much of the flow entering the project site is restricted to the Morrison Creek streambed (Wood Rodgers 2005).

There are several intermittent drainage watercourses on the project site, which are present mostly in areas of the project site not previously disturbed by mining activities. These intermittent watercourses include Morrison Creek and an adjacent overflow area to the north where flow may have historically divided across the site during large flood events. An existing nonengineered levee along this upstream section of Morrison Creek helps confine the majority of creek flow to the south, where it feeds several small wetlands and seasonal depressions. North of Morrison Creek are short runs of seasonally active gullies and ditches. However, the majority of overland watercourses that once may have been present on the project site have disappeared as a result of historical mining activities (Wood Rodgers 2005).

Small networks of drainage ditches and small-diameter roadway culverts exist in areas proximate to the industrial and rocket testing facilities constructed by Aerojet. The adjacent Security Park industrial area (not part of the project site) is also serviced by both pipe and ditch systems that flow to the south and ultimately traverse Douglas Road at various culvert locations. The capacity of these existing conveyances is unknown (Wood Rodgers 2005).

The project would direct site runoff to three Canal crossings (the “north siphon,” “central overchute,” and “south overchute”), each of which corresponds to watersheds of the developed project. The developed project watersheds are similar to those currently present at the project site, but have been designed to maximize existing downstream capacities at the Canal crossings.

Preproject (existing conditions) hydrologic analyses were conducted by Wood Rodgers in 2000, 2003, and 2005. Each analysis represents a further understanding and revised approach to delineating on-site subsheds, determining existing flow paths and physical properties of surface materials, analyzing revised land use plans, and coordinating with advisory and regulatory organizations. Each analysis conducted in support of the project indicates that drainage infrastructure problems exist downstream of the project site, with the exception of the central overchute, as described below and shown in Table 3.4-1.

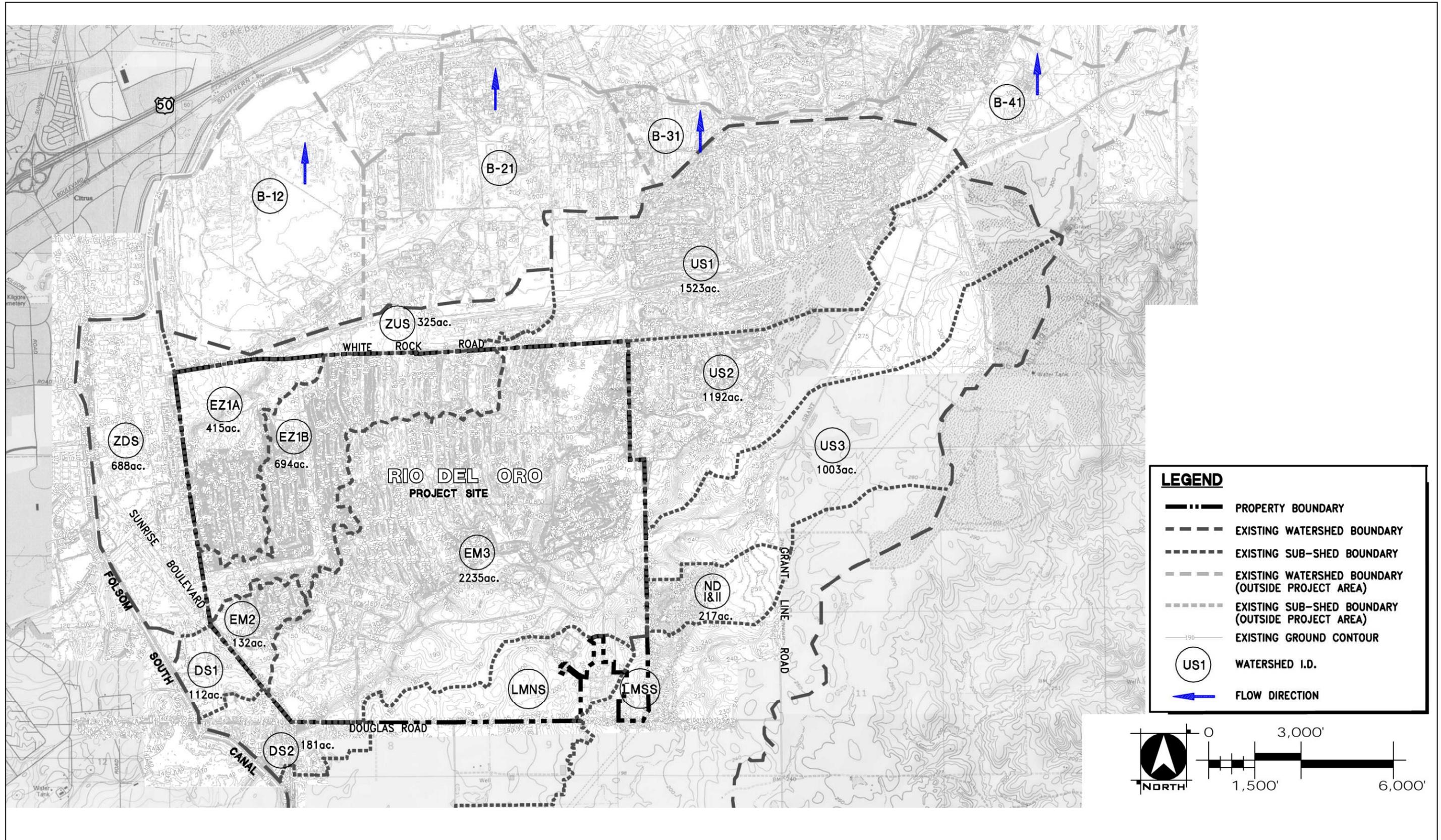
Folsom South Canal Crossing Structure	Existing Capacity (cfs)	Contributing Area (acres)	10-Yr 24-Hr Peak Flow (cfs)	100-Yr 24-Hr Peak Flow (cfs)	100-Yr 10-Day Peak Flow (cfs)
North siphon <sup>b</sup>	300	2,120	245	438 <sup>c</sup>	315
Central overchute	380	244	76	138	84
South overchute	620	6,351	564	1,013 <sup>c</sup>	842 <sup>c</sup>
<p>Notes:            10-Yr = 10-year; 24-Hr = 24-hour; 100-Yr = 100-year; cfs = cubic feet per second  <sup>a</sup> Peak flow is the amount of water flowing through a particular location during a particular event.  <sup>b</sup> The north siphon consists of a set of three parallel 42-inch culverts.  <sup>c</sup> Exceeds capacity.            Source: Modified from Wood Rodgers 2005</p>					

The north siphon lacks capacity for large flow events. The capacity of the siphon is exceeded during the 100-year 24-hour rainfall event, resulting in flooding of Sunrise Boulevard and surrounding infrastructure. Flows occur at greater than peak capacity at the south overchute and at both the existing Sunrise Boulevard and Douglas Road crossings. The capacity of the Sunrise Boulevard culvert is approximately 600 cubic feet per second (cfs), above which flooding of the roadway occurs. The capacity of the Douglas Road culvert is approximately 350 cfs before flooding of the roadway occurs.

## Watersheds

Five upstream off-site watersheds contribute flow southwest across the project site and toward the Canal crossings that convey flow downstream. Limited infrastructure exists upstream of the project site, and much of the off-site upstream area contains dredge tailings, similar to the project site. MacKay & Somps is providing drainage and engineering support for the Aerojet-owned land north of the project site; therefore, the boundaries of the northern off-site watersheds were coordinated with MacKay & Somps as part of the *Master Drainage Study for Rio del Oro* (Wood Rodgers 2005). There are also six existing on-site watersheds that drain generally southwesterly to downstream conveyance features. Finally, there are three existing off-site downstream watersheds. Current land uses within these three watersheds include areas of industrial and business development, as well as undeveloped grazing/farmlands. Infrastructure including roadways, buildings, utilities, and drainage conveyance systems are present in the developed areas. Although each of these watersheds crosses the Canal at a different location, they all generally flow southwesterly to downstream conveyance features and ultimately drain to Morrison Creek southwest of Mather Field. The existing watersheds are shown in Exhibit 3.4-2 and listed in Table 3.4-2 below.

<b>Table 3.4-2 Watersheds that Contribute Flow Through the Project Site</b>		
<b>Watershed Location</b>	<b>Watershed Name</b>	<b>Acres</b>
Off-site upstream	Zinfandel Upstream Watershed (ZUS)	325
	Upstream Watershed 1 (US1)	1,523
	Upstream Watershed 2 (US2)	1,192
	Upstream Watershed 3 (US3)	1,192
	North Douglas I and II Watershed (NDI&II)	NA <sup>1</sup>
On-site	Existing-Zinfandel 1A (EZ1A)	Together with EZ1B encompasses 1,109 acres
	Existing-Zinfandel 1B (EZ1B)	Together with EZ1A encompasses 1,109 acres
	Existing Morrison 2 (EM2)	132
	Existing Morrison 3 (EM3)	1,296
	Lower Morrison North (LMNS)	NA <sup>1</sup>
	Lower Morrison South (LMSS)	NA <sup>1</sup>
Off-site downstream	Zinfandel Downstream (ZDS)—drains to north siphon crossing	688
	Downstream 1 (DS1)—drains to central overchute crossing	112
	Downstream 2 (DS2)—drains to south overchute crossing	181
<sup>1</sup> NA = not applicable. Because flows from these watersheds are diverted to the Lower Morrison Creek Sunrise Douglas drainage, acreages were not calculated for the Rio del Oro project. Source: Wood Rodgers 2005		



**Watersheds in the Project Area**

## **Groundwater Hydrology**

Tertiary age (approximately 1.8–65 million years ago) sedimentary deposits of the Sacramento Valley form a large northwest trending asymmetrical groundwater basin (Central Basin). Regional groundwater flow within this basin is characterized by flow from the basin margins toward the center of the Sacramento Valley and the Sacramento River. Eastern Sacramento County is considered to be a recharge area for the regional aquifers (ERM 2003). The Mehrten and Laguna Formations are the principal water-bearing units. The project site is located within the recharge area characterized by these units.

Groundwater flow gradients vary widely within Sacramento County and generally mimic topography, with the steepest gradients in the foothills of eastern Sacramento County and shallower gradients in flat-lying areas in the central portion of the county. Groundwater in the vicinity of the project site flows primarily toward the west and southwest.

Groundwater within the project site occurs in both a shallow aquifer zone and an underlying deeper aquifer zone (Mehrten Formation). This deep aquifer zone is separated from the shallow aquifer by a discontinuous clay layer (City of Rancho Cordova 2005a). The thickness of the deep aquifer ranges from approximately 200 feet near the project site to more than 2,000 feet in the western portion of Sacramento County. Because the clay layer mentioned above is discontinuous, vertical movement of groundwater between the two aquifers is possible. For instance, if heavy pumping in the deep aquifer reduces the pressure head in the system, groundwater from the shallow aquifer may be induced to recharge the deeper aquifer. Conversely, if groundwater levels are lowered as a result of pumping in the shallow aquifer, the potential exists for the upward movement of groundwater to recharge the shallow aquifer (City of Rancho Cordova 2005a). Recharge to the aquifer system occurs from a combination of three main sources: stream recharge, subsurface inflows from adjacent areas, and percolation of rainfall and applied water (irrigation).

Black volcanic sands characterize the main water-bearing zones of the Mehrten Formation. Groundwater yields for the Mehrten Formation are highly variable because of the heterogeneous nature of the sediments, but in general, the water-bearing zones yield between 1,000 and 1,400 gallons per minute (gpm) with a specific capacity of 46–100 gpm per foot of drawdown (ERM 2003). Water yields are highest in the central portion of the valley, where well-sorted sands are predominant, and lowest along the eastern margins of the Sacramento Valley.

The primary water-bearing units within the Laguna Formation consist of sands and lenticular lenses of gravel. Groundwater yields for the Laguna Formation are highly variable because of the diverse nature of the sediments. Groundwater wells installed in the sand and gravel units can yield up to 1,800 gpm of groundwater.

A Hazardous Materials Technical Study prepared by ERM in 2003 to document the history and current status of soil, surface water, and groundwater investigations associated with the project site indicates that depth to first groundwater generally ranges from 50 to 125 feet.

## **WATER QUALITY**

### **Groundwater Quality**

Groundwater at various locations beneath the project site is contaminated with volatile organic compounds (VOCs) as a result of activities associated with the aerospace industry. As a result of this contamination, groundwater at the project site may not be employed for beneficial uses. Details are provided in Section 3.13, “Hazards and Hazardous Materials.”

### **Surface Water Quality**

The northern two-thirds of the project site is composed of highly disturbed land consisting of piles of dredge tailings from historical gold mining activities, which may extend up to 60 feet below the ground surface. The

southern third of the project site consists of generally undisturbed, undeveloped land. Scattered remnants of structures associated with rocket testing activities are present in those portions of the project site associated with development Phases 2–5. In addition to the project site, the greater Morrison Creek watershed also drains other largely undeveloped lands located south of U.S. Highway 50 (U.S. 50). However, this area contains numerous pockets of relatively high-density development and commercial-industrial centers along Sunrise Boulevard and White Rock Road.

Morrison Creek does not currently have any specific designated beneficial uses attributed to it in the water-quality control plan (Basin Plan) adopted by the Central Valley Regional Water Quality Control Board (RWQCB) (described in the “Regulatory Framework” section below). Consequently, the Central Valley RWQCB applies the Basin Plan’s “tributary rule” and assigns to Morrison Creek the beneficial uses designated for the nearest downstream location. The Central Valley RWQCB also regulates waste discharges in undesignated streams to ensure that downstream water quality conditions and beneficial uses are not degraded. Thus, Morrison Creek is subject to regulation for the existing designated uses in the Sacramento River, which include municipal water supply; irrigation supply; contact and noncontact recreation; warm and cold freshwater, migration, and spawning habitat; wildlife habitat; and navigation.

Water quality conditions in Morrison Creek have been characterized through recent sampling and analysis conducted for the County’s Coordinated Monitoring Program (CMP) (Camp Dresser & McKee and Laboratory Data Consultants 2004). Table 3.4-3 provides a summary of wet-weather and dry-weather sample data that have been collected from Morrison Creek downstream of the project site near Bradshaw Road. These data are the most recent water quality data available for Morrison Creek and the first monitoring data for Morrison Creek to be included in the County CMP. The data set represents a limited set of conditions in the watershed. However, the data provide a general assessment of water quality conditions and reflect several distinct seasonal differences typical of urbanized area streams.

<b>Table 3.4-3 Water Quality Summary for Morrison Creek Samples</b>						
Constituent	Units	Water Quality Objective <sup>a</sup>	Wet-Weather Events			Dry-Weather Event
			12/14-15/03	2/2/04	2/17-18/04	4/13/04
<b>Conventional Physical-Chemical Parameters</b>						
Dissolved oxygen (field)	mg/L	7.0 <sup>c</sup>	6.2	11.0	7.0	12.0
Specific conductance (field)	µS/cm	—	87	81	64	316
Temperature (field)	°C	< 2.8 change <sup>d</sup>	10.8	11.3	13.3	19.8
pH (field)	standard	6.5–8.5	5.7	6.1	6.2	9.2
Hardness—total	mg/L as CaCO <sub>3</sub>	—	30	—	—	—
Solids, total suspended	mg/L	Narr. <sup>e</sup>	40	41	54	3
Solids, total dissolved	mg/L	—	79	—	—	—
Turbidity	NTU	< 20% change <sup>f</sup>	43	—	—	—
<b>Bacteriological Parameters</b>						
<i>Escherichia coli</i>	MPN/100 mL	235 <sup>g</sup>	5,000	5,000	5,000	230
Fecal coliform	MPN/100 mL	400 <sup>h</sup>	8,000	8,000	7,000	300

**Table 3.4-3  
Water Quality Summary for Morrison Creek Samples**

Constituent	Units	Water Quality Objective <sup>a</sup>	Wet-Weather Events			Dry-Weather Event
			12/14-15/03	2/2/04	2/17-18/04	4/13/04
<b>Nutrients</b>						
Nitrite + nitrate	mg/L-N	10 <sup>i</sup>	0.7	—	—	—
Phosphorus—total	mg/L-P	—	0.3	—	—	—
<b>Trace Metals</b>						
Arsenic—dissolved	µg/L	10 <sup>j</sup>	1.03	—	—	—
Arsenic—total	µg/L	—	1.4	—	—	—
Cadmium—dissolved	µg/L	2.2 <sup>k</sup>	<0.008	—	—	—
Cadmium—total	µg/L	5 <sup>i</sup>	0.2	—	—	—
Chromium—dissolved	µg/L	130 <sup>k</sup>	0.91	—	—	—
Chromium—total	µg/L	50 <sup>i</sup>	5.32	—	—	—
Copper—dissolved	µg/L	9.0 <sup>k</sup>	4.12	—	—	—
Copper—total	µg/L	1,000 <sup>i</sup>	11.4	—	—	—
Iron—dissolved	µg/L	300 <sup>i</sup>	67.1	—	—	—
Iron—total recoverable	µg/L	—	1,900	—	—	—
Lead—dissolved	µg/L	2.5 <sup>k</sup>	0.462	—	—	—
Lead—total recoverable	µg/L	15 <sup>i</sup>	10.4	—	—	—
Mercury—dissolved	ng/L	50 <sup>k</sup>	2.59	—	—	—
Mercury—total	ng/L	50 <sup>l</sup>	12.2	—	—	—
Mercury—total methyl	ng/L	—	0.394	—	—	—
Nickel—dissolved	µg/L	52 <sup>k</sup>	1.37	—	—	—
Nickel—total	µg/L	100 <sup>i</sup>	5.07	—	—	—
Zinc—dissolved	µg/L	120 <sup>k</sup>	23.4	—	—	—
Zinc—total	µg/L	5,000 <sup>i</sup>	78.1	—	—	—
<b>Polycyclic Aromatic Hydrocarbons <sup>b</sup></b>						
Benz(a)anthracene	µg/L	0.0044	0.0174	—	—	—
Benzo(a)pyrene	µg/L	0.0044	0.0542	—	—	—
Benzo(b)fluoranthene	µg/L	0.0044	0.0317	—	—	—
Benzo(k)fluoranthene	µg/L	0.0044	0.0307	—	—	—
Chrysene	µg/L	0.0044	0.0322	—	—	—
Indeno(1,2,3-cd)pyrene	µg/L	0.0044	<0.001	—	—	—
Total PAHs	µg/L	—	0.5448	—	—	—

**Table 3.4-3  
Water Quality Summary for Morrison Creek Samples**

Constituent	Units	Water Quality Objective <sup>a</sup>	Wet-Weather Events			Dry-Weather Event
			12/14-15/03	2/2/04	2/17-18/04	4/13/04
<b>Chlorinated Pesticides <sup>b</sup></b>						
2-4-D	µg/L	70	<0.5	—	—	—
4,4'-DDT	µg/L	0.59	0.05	—	—	—
Endosulfan I	µg/L	56	<0.01	—	—	—
<b>Organophosphate Pesticides <sup>b</sup></b>						
Chlorpyrifos	µg/L	0.02/0.014	<0.05	<0.05	<0.05	0.03
Diazinon	µg/L	0.08/0.05	0.2	0.32	0.2	<0.05
<b>Triazine Pesticides <sup>b</sup></b>						
Simazine	µg/L	4	0.83	1.3	2.4	0.08
<b>Semivolatile Organic Compounds <sup>b</sup></b>						
Bis(2-ethylhexyl)phthalate	µg/L	1.8	1.25	—	—	—
2,4-Dinitrophenol	µg/L	70	0.813	—	—	—
2-Methyl-4,6-dinitrophenol	µg/L	13.4	0.295	—	—	—
Pentachlorophenol	µg/L	0.28	0.306	—	—	—

Note: °C = degrees Celsius; CaCO<sub>3</sub> = calcium carbonate; µg/L = micrograms per liter; µS/cm = microsiemens per centimeter; mg/L = milligrams per liter; mg/L-N = milligrams per liter of nitrate; mg/L-P = milligrams per liter of phosphorous; ng/L = nanograms per liter; mL = milliliter; MPN/100 mL = most probable number per 100 milliliters; NA = not available or not applicable; NTU = nephelometric turbidity units; PAH = polycyclic aromatic hydrocarbon; — = information not reported or not collected

<sup>a</sup> Lowest applicable regulatory objectives.

<sup>b</sup> Sample results only shown for organic compounds that have applicable water quality objectives and were detected at a concentration greater than 1/100 of the applicable objective.

<sup>c</sup> Basin Plan dissolved oxygen objectives: minimum of 7.0 mg/L; monthly median dissolved oxygen shall not be below 95% of saturation; 95th percentile value shall not be lower than 75% saturation.

<sup>d</sup> Basin Plan temperature objective: intrastate waters shall not be increased more than 2.8°C (5°F) above natural receiving water temperature.

<sup>e</sup> Basin Plan narrative objective: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

<sup>f</sup> Basin Plan numeric turbidity objectives for allowable change from natural background condition: (a) less than 1 NTU change where background turbidity is between 0 and 5 NTUs; (b) less than 20% change where background turbidity is between 5 and 50 NTUs; (c) change of less than 10 NTUs where background turbidity is between 50 and 100 NTUs; and (d) less than 10% change where background turbidity exceeds 100 NTUs.

<sup>g</sup> Basin Plan: adopted criteria, but not yet approved by the U.S. Environmental Protection Agency.

<sup>h</sup> Basin Plan: current approved criteria to be superseded by E. coli criteria.

<sup>i</sup> Basin Plan: objective adopted from Title 22 drinking water quality Maximum Contaminant Level.

<sup>j</sup> Basin Plan: dissolved aquatic life criteria.

<sup>k</sup> California Toxics Rule: chronic aquatic life criteria; hardness dependent criteria based on 100 mg/L hardness; pH dependent criteria based on pH 7.4.

<sup>l</sup> California Toxics Rule human health criteria.

Source: Adapted from Camp Dresser & McKee and Laboratory Data Consultants 2004

The wet-weather (winter storm) event samples had low levels of conventional inorganic minerals as demonstrated by the low conductance and total-hardness values; however, the wet-weather samples were consistently elevated with coliform bacteria and total suspended solids that are indicative of fecal contaminant sources, likely from livestock and other animal sources and sediment transport in the watershed, respectively. The single wet-weather sample analyses for organic compounds indicated elevated values for several polycyclic aromatic hydrocarbons (PAHs) and the organophosphate pesticide diazinon. PAHs, which are byproducts of combustion (primarily gasoline, wood, oil, and coal) and are contained in some asphalt sealants, can enter streams via atmospheric deposition and urban stormwater runoff.

The CMP monitoring data found elevated PAH concentrations at all sample locations along urban creeks; however, they were not detected in any of the Sacramento River or American River samples. Diazinon is a common household pesticide and dormant-season agricultural pesticide, for which the registration for residential sale expired in fall 2004. Consequently, it is expected that the historical elevated values of this highly mobile contaminant in Sacramento Valley urban streams will eventually diminish as its use becomes limited to commercial agricultural uses. Dry-weather samples from Morrison Creek were evaluated for only a selected small set of parameters; however, it is apparent that concentrations for total suspended solids, coliform bacteria, and diazinon were lower than the winter-storm-event samples. Specific conductance and the organophosphate pesticide chlorpyrifos, another highly mobile pesticide of concern, were slightly elevated relative to storm-event samples.

The 2002 version of the Section 303(d) list for California issued by the State Water Resources Control Board (SWRCB), discussed below in the “Regulatory Framework” section, identifies impaired status for a 21-mile stretch of Morrison Creek for diazinon. The potential sources listed are agriculture and urban runoff/storm sewers. The agricultural source of diazinon in this area of Morrison Creek is from aerial deposition/spraying. The total maximum daily limit (TMDL) Priority (e.g., a process to establish a limit) is listed as “High.”

## **3.4.2 REGULATORY FRAMEWORK**

### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **Federal Emergency Management Agency**

FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (AEP) (i.e., the 100-year flood event). Specifically, where levees provide flood protection, FEMA requires that the levee crown have 3 feet of freeboard above the 1-in-100-AEP water surface elevation, except in the vicinity of a structure such as a bridge, where the levee crown must have 4 feet of freeboard for a distance of 100 feet upstream and downstream of the structure.

#### **Federal Clean Water Act**

EPA is the lead federal agency responsible for water quality management. The Clean Water Act of 1972 (CWA) is the primary federal law that governs and authorizes water-quality control activities by EPA as well as the states. Various elements of the CWA address water quality, as discussed below. Wetland protection elements administered by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA, including permits to dredge or fill wetlands, are discussed in Section 3.10, “Biological Resources.”

Under federal law, EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface

waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question, and (2) criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, EPA has designated the SWRCB and its nine RWQCBs with authority to identify beneficial uses and adopt applicable water quality objectives.

## **National Pollutant Discharge Elimination System Permit Program**

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify the following:

- ▶ effluent and receiving-water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge;
- ▶ prohibitions on discharges not specifically allowed under the permit; and
- ▶ provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

More specifically, the discharge prohibitions and limitations in an NPDES permit for wastewater treatment plants are designed to ensure the maintenance of public health and safety, protection of receiving-water resources, and safeguarding of the designated beneficial uses. Discharge limitations typically define allowable effluent quantities for flow, biochemical oxygen demand (BOD), total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, pH, and toxic pollutants. Limitations also typically encompass narrative requirements regarding mineralization and toxicity to aquatic life.

In November 1990, EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase 1 of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons. Phase 1 also applied to stormwater discharges from a large variety of industrial activities, including general construction activity, if the project would disturb more than 5 acres. Phase 2 of the NPDES stormwater permit regulations, which became effective in March 2003, required that NPDES permits be issued for construction activity for projects that disturb between 1 and 5 acres. Phase 2 of the municipal permit system (known as the “NPDES General Permit for Small MS4s”) required small municipal areas of less than 100,000 persons to develop stormwater management programs. The RWQCBs in California are responsible for implementing the NPDES permit system (see additional information below).

## **Section 401 Water Quality Certification or Waiver**

Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate state agency stating that the fill is consistent with the state’s water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the SWRCB to the nine RWQCBs.

## **Federal Antidegradation Policy**

The federal antidegradation policy, established in 1968, is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- ▶ Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.
- ▶ Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- ▶ Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

### **Section 303(d) Impaired Waters List**

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the state develop a TMDL for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

### **Safe Drinking Water Act**

Under the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary Maximum Contaminant Levels (MCLs) that are applicable to treated water supplies delivered to the distribution system. MCLs and the process for setting these standards are reviewed triennially. Amendments to the SDWA enacted in 1986 established an accelerated schedule for setting MCLs for drinking water.

EPA has delegated to the California Department of Health Services (DHS) the responsibility for administering California's drinking-water program. DHS is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA. The applicable state primary and secondary MCLs are set forth in Title 22, Division 4, Chapter 15, Article 4 of the California Code of Regulations.

### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

State regulations applicable to the demonstration of adequate water supply for the future water demands resulting from the project are addressed in Section 3.5, "Utilities and Service Systems."

In California, the SWRCB has broad authority over water-quality control issues for the state. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other state agencies with jurisdiction over water quality regulation in California include DHS (for drinking-water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Game (DFG), and the Office of Environmental Health and Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt Basin Plans for all areas in the region and establish water quality

objectives in the plans. The Central Valley RWQCB is responsible for the regional area in which the project site is located.

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) of 1969 is California's statutory authority for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update their Basin Plans. The Basin Plan identifies the designated beneficial uses for specific surface water and groundwater resources, applicable water quality objectives necessary to support the beneficial uses, and implementation programs that are established to maintain and protect water quality from degradation. The act also requires waste dischargers to notify the RWQCBs of their activities through the filing of Reports of Waste Discharge (RWDs) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWDs/WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

### **California State Nondegradation Policy**

In 1968, as required under the federal antidegradation policy described above, the SWRCB adopted a nondegradation policy aimed at maintaining high quality for waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

- a. Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the State and would not unreasonably affect present and anticipated beneficial uses of such water.*
- b. Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements which would ensure (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the State would be maintained.*

### **California Toxics Rule**

In May 2000, the SWRCB adopted and EPA approved the California Toxics Rule (CTR), which establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The SWRCB subsequently adopted its State Implementation Policy (SIP) of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries. The SIP outlines procedures for NPDES permitting for toxic-pollutant objectives that have been adopted in Basin Plans and in the CTR.

### **NPDES Permit System and Waste Discharge Requirements for Construction**

The SWRCB and Central Valley RWQCB have adopted specific NPDES permits for a variety of activities that have potential to discharge wastes to waters of the state. The SWRCB's statewide stormwater general permit for construction activity (Order 99-08-DWQ, as amended) is applicable to all land-disturbing construction activities that would disturb more than 1 acre. The Central Valley RWQCB's general NPDES permit for construction dewatering activity (Order 5-00-175) authorizes direct discharges to surface waters up to 250,000 gallons per day for no more than a 4-month period each year. All of the NPDES permits involve similar processes, including submittal to the Central Valley RWQCB of Notices of Intent (NOIs) to discharge, and implementation of

Stormwater Pollution Prevention Plans (SWPPPs) that include best management practices (BMPs) to minimize those discharges. As mentioned above, the Central Valley RWQCB may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the state. In particular, Central Valley RWQCB Resolution R5-2003-0008 identifies activities subject to waivers of RWDs and/or WDRs, including minor dredging activities and construction dewatering activities that discharge to land.

Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce nonstormwater discharges to storm sewer systems and other waters. The permit also requires dischargers to consider the use of permanent postconstruction BMPs that will remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements. In response to a court decision, the Central Valley RWQCB also implemented mandatory water quality sampling requirements in Resolution 2001-046 for visible and nonvisible contaminants in discharges from construction activities. Water quality sampling is now required if the activity could result in the discharge of turbidity or sediment to a water body that is listed as impaired under Section 303(d) because of sediment or siltation, or if a release of a nonvisible contaminant occurs. Where such pollutants are known or should be known to be present and have the potential to contact runoff, sampling and analysis is required. NPDES permits require the implementation of design and operational BMPs to reduce the level of contaminant runoff. Types of BMPs include source controls, treatment controls, and site planning measures.

Discharges subject to the SWRCB's NPDES general permit for construction activity are subject to development and implementation of a SWPPP. The SWPPP includes a site map and description of construction activities and identifies the BMPs that will be employed to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. A monitoring program is generally required to ensure that BMPs are implemented according to the SWPPP and are effective at controlling discharges of stormwater-related pollutants.

### **NPDES Municipal Stormwater Permit**

The urban municipal entities, including the County, the City of Rancho Cordova (City), and the Cities of Citrus Heights, Folsom, Galt, and Sacramento, are co-permittees for an area wide NPDES municipal stormwater permit through the Central Valley RWQCB. A Stormwater Quality Improvement Plan (SQIP) developed by the County for compliance with the NPDES permit is the guiding document for the City (County of Sacramento 2003). The SQIP is composed of six program elements developed to reduce contaminants discharged into receiving-water bodies. The six Minimum Control Measure elements of the SQIP are public education and outreach, public involvement/participation, detection and elimination of illicit discharges, construction-site runoff control, postconstruction runoff control in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. For each Minimum Control Measure, the City has selected a suite of BMPs and measurable goals to address the specific stormwater problems within the city or county limits. The Stormwater Division of the County Department of Water Resources has principal authority of ensuring that development proceeds in compliance with the SQIP, County drainage and stormwater quality standards, and the use of on-site and regional stormwater-quality treatment facilities. In association with the SQIP, several accessory programs are in place, including a Storm Water Ordinance, construction standards, and design review guidelines to reduce contaminants in stormwater runoff.

Of particular relevance to the project is the City's coordination of BMP review and implementation under the construction-site runoff control program. Under the new-development element of the SQIP, commercial and industrial properties and facilities are required to implement stormwater-quality treatment and/or source-control BMPs in their projects. New-development and redevelopment control measures include development of structural and nonstructural controls, ordinances or regulatory mechanisms, and long-term operations and maintenance (O&M) practices. The "pollution prevention/good housekeeping for municipal operations" element of the SQIP addresses routine O&M activities for drainage systems, roadways, parks and open spaces, and other municipal

operations to help ensure a reduction in pollutants entering the storm sewer system. The pollution prevention/good housekeeping program includes a training component to prevent and reduce stormwater pollution from municipal operations. The pollution prevention/good housekeeping BMPs can be separated into two broad categories: source controls and materials management. Source controls are BMPs designed to prevent or reduce pollutants at the source and include maintenance of the storm drainage system, structural floatable controls, street maintenance, staff training, flood control projects, and litter ordinances. Materials management BMPs are designed to reduce pollutants with nonstructural controls such as pesticide education and spill prevention control.

The new-development/redevelopment element of the SQIP requires projects to implement postconstruction stormwater runoff control measures that are addressed in the *Guidance Manual for On-site Stormwater Quality Control Measures* (City of Sacramento and County of Sacramento 2000). This manual includes a Control Measure Decision Matrix that identifies source and treatment controls that are required based on land use and the impervious area of the site. The new-development/redevelopment element is designed to reduce stormwater pollutants using regional water-quality control measures, such as detention basins, for areas of large development (i.e., areas generally greater than 100 acres); and implementation of on-site source control and/or stormwater treatment measures for commercial, industrial, and multifamily residential land uses in areas not served by regional water-quality control measures. On-site stormwater pollutant source-control measures are typically low-technology operational and/or structural practices that prevent or reduce pollutants at the source, are implemented for specific outdoor activities of concern, and primarily involve implementation of good-housekeeping practices (spill prevention, proper storage methods, and proper cleanup procedures). On-site stormwater-treatment control measures are implemented when source-control measures are determined to be inadequate in preventing stormwater pollution. Treatment control measures capture and treat stormwater runoff through settling, filtration, and/or biodegradation. The treated runoff is then released or percolated into the ground. Various treatment control measures have been determined to be appropriate for conditions in Sacramento County including swales, filter strips, media filters, and infiltration.

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES**

### **Rancho Cordova General Plan**

Goals and policies of the *Rancho Cordova General Plan* (City General Plan) relating to water resources that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### **3.4.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines), a drainage, hydrology, or water quality impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ violate any water quality standards or waste discharge requirements, including NPDES waste discharge or stormwater runoff requirements, state or federal antidegradation policies, enforceable water quality standards contained in the Central Valley RWQCB Basin Plan or statewide water-quality control plans, or federal rulemakings to establish water quality standards in California;
- ▶ substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a substantial lowering of the level of the local groundwater table;
- ▶ 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 that would result in substantial erosion or siltation on-site or off-site;

- ▶ create or contribute runoff water that would exceed the capacity (peak flow) of existing or planned stormwater drainage systems;
- ▶ substantially degrade water quality;
- ▶ place within a 100-year flood hazard area structures that would impede or redirect flood flows; or
- ▶ 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.

## **ANALYSIS METHODOLOGY**

This analysis relies on information provided by various public agencies, as well as site-specific technical planning studies generated to support the proposed development and this draft environmental impact report/draft environmental impact statement (DEIR/DEIS). Hydrology and drainage-related studies in support of this DEIR/DEIS analysis include the *Rio del Oro Groundwater Impact Evaluation Technical Memorandum* (WRIME 2005) and the 2005 *Master Drainage Study for Rio del Oro* (Wood Rogers 2005), which included review and incorporation of the following documents:

- ▶ *Sacramento City/County Drainage Manual Volume 2: Hydrology Standards*, County of Sacramento Department of Water Resources, December 1996 (County of Sacramento 1996);
- ▶ *Final Master Drainage Study for Sunrise Douglas Community Plan Area*, The Spink Corporation, October 1998 (Spink Corporation 1998);
- ▶ *Morrison Creek Stream Group Hydrologic Analysis*, prepared by James M. Montgomery for the County of Sacramento, March 1992 (County of Sacramento 1992);
- ▶ *Master Drainage Study for the Villages of Zinfandel*, Wood Rodgers, Inc., revised March 2003 (Wood Rodgers 2003b); and
- ▶ *Morrison Creek Hydrologic and Hydraulic Analysis*, Wood Rodgers, Inc., May/July 2004 (Wood Rodgers 2004a).

Effects associated with drainage, hydrology, and water quality that could result from construction and operational activities related to buildout of the project site were evaluated based on expected construction practice, on the materials used, and on the locations and duration of the activities. A review of published literature included maps, books, and primary-source documents cited above. The effects of the project were compared to environmental baseline conditions (i.e., existing conditions) to determine the duration and magnitude of impacts, consistent with the State CEQA Guidelines.

## **IMPACT ANALYSIS**

### **Program Level Impacts and Mitigation Measures**

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

**IMPACT  
3.4-1**

**Potential Increased Risk of Flooding from Increased Stormwater Runoff.** *Project implementation would increase the amount of impervious surface on the project site, thereby increasing surface runoff. This increase in surface runoff would result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and therefore could result in greater potential for on- and off-site flooding.*

**PP**

Buildout of the Proposed Project Alternative would significantly increase the amount of impervious surface (e.g., buildings, roads, parking surfaces) on the project site. The various types of proposed land uses would each contribute different relative amounts of stormwater runoff corresponding to the percentage of impervious surface associated with each land use category, which ranges from 2% (wetlands/open space) to 95% (major roads and stormwater detention). The total amount of impervious surface generated by development of the Proposed Project Alternative (development Phases 1–5) would be approximately 49.2% of the entire project site, or about 1,882 acres. This increase in impervious surface would increase the peak discharge rate of stormwater runoff generated on the project site.

Project development requires installation of an on-site conveyance and detention/water quality treatment system and the conveyance of off-site flows through the property. When combined, the on- and off-site runoff must pass through existing downstream off-site conveyance systems located within the Cordova Industrial Park development area, including culvert crossings under Douglas Road and Sunrise Boulevard, and then cross the Folsom South Canal at three existing locations.

Exhibit 2-6a shows the proposed extent of on-site drainage features, including parkways, detention basins, and water quality treatment features associated with the Proposed Project Alternative. In determining the design of project drainage improvements, Wood Rodgers incorporated the following assumptions:

- ▶ The design of the project site drainage system was based on the flow capacities at the Canal crossings.
- ▶ These capacities were apportioned to the area of the upstream contributing watersheds to determine the appropriate discharge per acre for the project site and future development upstream of the project site. Peak flows discharging from the project site would be managed via detention basins such that flows would not exceed the calculated appropriate discharge per acre during a 100-year flood.
- ▶ Proposed runoff detention facilities would be designed only to mitigate on-site runoff from the project site. Thus, future upstream development must also adhere to the calculated discharge constraints.
- ▶ Runoff from upstream off-site watersheds would be conveyed through the site in open-channel parkways (described below in Impact 3.4-2). On-site runoff would be conveyed to these open-channel parkways in a storm drainage pipe system.

Exhibit 2-6b shows the proposed off-site drainage features, including outflow locations where flow exits the project site, conveyance structures to and under Sunrise Boulevard, conveyance structures to the Folsom South Canal, and associated siphon and overchute structures beneath or over the canal. The Folsom South Canal, located west and downstream of the project site, was neither designed nor intended to serve as a drainage system, but rather to convey American River water east and south for irrigation and domestic uses. Therefore, the canal would not receive any runoff from the project site. Rather, all runoff from the project site would be conveyed over or

under the canal via the existing overchutes and siphons as previously described under “Affected Environment” (Table 3.4-1). Based on discussions with the County Department of Water Resources, the existing peak runoff rates during major storm events exceed the conveyance capacity of the north and south canal crossings and contribute to shallow flooding conditions on Sunrise Boulevard.

In response to the capacity limitations of the Canal crossings, the project drainage system has been designed to decrease the overall peak rate of runoff from the site as compared to existing conditions. As shown in Table 3.4-4, the current total capacity of the three Canal crossings is 1,300 cfs, and the project would reduce the total flow through the crossings to 1,259 cfs by redirecting the flow paths of runoff leaving the project site and conveyed under or across the Folsom South Canal. This represents a decrease of 16% (237 cfs) of total peak flow at these locations. Peak rates of runoff in the north siphon would decrease by 30% and the peak runoff rate at the south overchute would decrease by 42%. The peak runoff rate at the central overchute crossing would increase by about 198 cfs but would remain below the total conveyance capacity of the crossing.

Although existing capacity constraints at the canal crossings would remain, implementation of the Proposed Project Alternative would result in a beneficial impact related to stormwater runoff, because the project would reduce the peak flow rates of water in the crossings to levels below the existing (preproject) conditions and would thus reduce the potential for off-site flooding effects on Sunrise Boulevard.

While it appears that the project applicant(s)’ proposed *Master Drainage Study for Rio del Oro* (Wood Rodgers 2005) would appropriately convey upstream off-site runoff and would appropriately detain project-related on-site runoff, final designs and specifications have not been submitted or approved by the City. Therefore, implementation of the Proposed Project Alternative could result in **potentially significant, direct** impacts related to stormwater runoff and the subsequent risk of flooding. **No indirect** impacts would occur.

**Table 3.4-4  
Existing and Projected Peak Flows at Folsom South Canal Crossings under the Rio del Oro Project**

Folsom South Canal Crossing Structure	Existing Capacity (cfs)	100-Yr 24-Hr Peak Flow <sup>1</sup> (cfs)		Change in Peak Flow Rates (Existing minus Proposed)	
		Existing	Project	Change (cfs)	Change (%)
North siphon	300	438	334	-104	-24
Central overchute	380	138	336	+198	+143
South overchute	620	1,013	589	-424	-42
<b>Total</b>	<b>1,300</b>	<b>1,496</b>	<b>1,259</b>	<b>-237</b>	<b>-16</b>

Note: cfs = cubic feet per second  
<sup>1</sup> Only the 100-year/24-hour flows are shown because these were determined to have the highest flow rates.  
Sources: Wood Rodgers 2005, data compiled by EDAW in 2005

**HD** The total acreage designated for residential uses would remain constant under the High Density Alternative, as shown in Table 2-10 (see Chapter 2, “Alternatives”); however, because of the higher density residential land use, the amount of impervious surface would increase by 10.8 acres as compared with the Proposed Project Alternative.

It is anticipated that the drainage plans and facilities under the High Density Alternative would be substantially similar to those prepared for the Proposed Project Alternative. Because final designs and specifications have not been submitted to or approved by the City, implementation of the High Density Alternative could result in **potentially significant, direct** impacts related to stormwater runoff and the subsequent risk of flooding. **No indirect** impacts would occur. *[Similar]*

IM Impacts under the Impact Minimization Alternative would be less than those under the Proposed Project Alternative because approximately 500 fewer acres of impervious surface would result from development.

However, since final designs and specifications have not been submitted to or approved by the City, implementation of the Impact Minimization Alternative could result in **potentially significant, direct** impacts related to stormwater runoff and the subsequent risk of flooding. **No indirect** impacts would occur. *[Similar]*

NF Impacts under the No Federal Action Alternative would be less than those under the Proposed Project Alternative because approximately 328 fewer acres of impervious surface would result from development. The total impervious surface area under this alternative is projected to be 1,639 acres, or 43% of the total project site. This would be approximately 5% less (200 fewer acres) of impervious surfaces as compared to the Proposed Project Alternative.

The drainage plan for this alternative would incorporate three detention basins of similar sizes and in the same locations as under the Proposed Project Alternative (Exhibit 2-18). Major conveyance channels and trunk pipelines under this alternative would be substantially similar to those required under the Proposed Project Alternative (Exhibit 2-6a through 2-6b). However, this alternative would require additional drainage crossings/bridges over designated “Natural Resources” areas in order to serve the three proposed single-family residential areas in the southern portion of the project site. Further, a 2- to 3-acre detention basin would be constructed within each of these three single-family residential housing areas to improve stormwater quality before discharge into the designated Natural Resources area.

Since final designs and specifications have not been submitted or approved by the City, implementation of the No Federal Action Alternative could result in **potentially significant, direct** impacts related to stormwater runoff and the subsequent risk of flooding. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not alter the existing hydrology and drainage conditions at the project site, and the limited amount of water discharges would not increase the potential for flooding from stormwater runoff. According to the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005b), there are no drainages at the Grantline West site that would be affected by mining activities. Existing drainage swales and berms at the Aerojet Mining Amendment site currently direct water around the area of mining activities and would not be affected by the additional mining operations. Furthermore, a natural berm constructed during earlier dredge mining activities separates the Aerojet mining site from existing swales on adjacent undisturbed land. Mining activities would, however, result in direct, less-than-significant impacts.

The project site would ultimately be reclaimed to postmining form under the No Project Alternative and no project-related impacts would occur; thus, **no direct or indirect** impacts would occur.

**Mitigation Measure 3.4-1: Prepare and Submit Final Drainage Plans to the City and Implement Requirements.**

**PP, HD, IM, NF** Before the approval of grading plans and building permits, the project applicant(s) for all project phases shall submit final drainage plans to the City demonstrating that off-site upstream runoff would be appropriately conveyed through the project site, and that project-related on-site runoff would be appropriately contained in detention basins to reduce flooding impacts. Furthermore, the project applicant(s) for all project phases may be required to participate in drainage improvements along Sunrise Boulevard; this will be determined through continuing consultation with the Sacramento County Department of Water Resources.

**Timing:** Before approval of grading plans and building permits for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

**NP** No mitigation measures are required.

Implementation of Mitigation Measure 3.4-1 would reduce the potentially significant impact associated with the potential increased risk of flooding from increased stormwater runoff under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.4-2**

**Exposure of People or Structures to a Significant Risk of Flooding as a Result of the Failure of a Levee.** *Project implementation could expose people or structures to a significant risk of flooding as a result of the failure of a levee.*

**PP** Both natural and improved drainage conveyances are located within the project site boundary. Most of the flow entering the site from the east is restricted to the Morrison Creek streambed. Although a levee currently exists along a section of Morrison Creek that helps confine the majority of the creek flow to the south, where it feeds several small wetlands and seasonal depressions that naturally attenuate increased flow, it is a nonengineered levee that is not designed or maintained for the purpose of flood control. (City of Rancho Cordova 2004, Wood Rodgers 2005.)

The section of Morrison Creek that runs through the project site has not received detailed study by FEMA for the purpose of drafting an FIS or a FIRM. DWR has undertaken efforts through the Awareness Floodplain Mapping System to approximate floodplain delineations of undocumented watercourses throughout the state. The County studied the local hydrology and developed hydrologic and hydraulic models of the system, and floodplain maps were subsequently prepared by DWR. Exhibit 3.4-1 shows the Awareness Floodplain map of the project site under existing conditions.

The Proposed Project Alternative's on-site storm drainage flow conveyance system would be composed of drainage parkways, storm drainage pipes, and Morrison Creek. The pipe system would include trunk storm drains, parkways, detention basins, and local collection and conveyance infrastructure. The proposed open-channel drainage parkway system would provide an aesthetically and environmentally preferable alternative to an enclosed drainage system. Several drainage canals are proposed for construction within the drainage parkways, which would vary from approximately 200 to 375 feet wide from top of bank to top of bank. The canals would vary in length from 1,500 to 15,000 feet long. Design of the drainage canals, as detailed in

the *Master Drainage Study for Rio del Oro* (Wood Rodgers 2005), would incorporate the following features:

- ▶ Water flow has been designed to accommodate a lack of regular removal of vegetation from channels (the presence of channel vegetation and associated aquatic organisms generally helps to improve water quality).
- ▶ Channels have been designed so that in the event of a 100-year flood, the water surface elevation would be a minimum of 1 foot below the channel banks and water would not flow at a rate faster than 6.0 feet per second.
- ▶ When the channels are filled to maximum capacity, the water flow depth would not exceed 8 feet.
- ▶ Channels would be constructed in the shape of a trapezoid, with 4-foot horizontal to 1-foot vertical side slopes.
- ▶ The width of the drainage parkways would permit the final construction alignments of the channels to meander through the project site, and would also facilitate the construction of wetland buffer areas alongside the proposed streambanks.
- ▶ A 3-foot-high berm placed within the channels at specific locations near the storm drainage pipe outlets would create a parallel low-flow water quality swale (i.e., during low flows, water would be diverted into a vegetated swale, thus improving water quality), with gaps in the berm to allow low flows to merge with the main channel flow.
- ▶ The majority of the historical Morrison Creek streambed would be preserved through the project site (throughout the designated wetland preserve) to ensure that existing wetlands, vernal pools, and other water-dependent habitats would not receive less runoff as a result of project development.

With incorporation of the design criteria summarized above and described in detail in the *Master Drainage Study for Rio del Oro* (Wood Rodgers 2005), the Proposed Project Alternative would not expose people or structures to a significant risk of flooding as a result of the failure of existing on-site levees or new levees that would be constructed. Therefore, this is considered a **less-than-significant, direct** impact. **No indirect** impacts would occur.

HD

Virtually the same drainage plan as presented in the master drainage study for the Proposed Project Alternative would be developed under the High Density Alternative. Therefore, it is anticipated that with implementation of drainage improvements that attenuate peak flows consistent with the *Master Drainage Study for Rio del Oro*, and with the incorporation of design criteria described above, the High Density Alternative would not expose people or structures to a significant risk of flooding as a result of the failure of existing on-site levees or new levees that would be constructed. Therefore, this is considered a **less-than-significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

IM

Approximately 25% of the project site would become a wetland preserve under the Impact Minimization Alternative. The drainage plan that would be developed for this alternative would require much less intensive drainage improvements, utilizing the wetlands for stormwater detention and flood control. It is not anticipated that the construction of levees would be required under this alternative. Therefore, this alternative would result in **less-than-significant, direct** impacts. **No indirect** impacts would occur. *[Similar]*

NF Approximately 835 acres of the project site would be designated as undeveloped “Natural Resources” under the No Federal Action Alternative. The drainage plan that would be developed for this alternative would still include drainage parkways, storm drainage pipes, and three detention basins, but would entail jack-and-bore construction techniques underneath jurisdictional wetlands. A 2- to 3-acre detention basin would also be required in each of the proposed single-family residential housing areas in the southern portion of the project site. The drainage plan for this alternative would also utilize the designated Natural Resources areas for additional stormwater detention and flood control. It is not anticipated that the construction of levees would be required under this alternative. Therefore, this alternative would result in **less-than-significant, direct** impacts. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not increase on- or off-site drainage flows, and no levees would be constructed.

Because development would not occur under the No Project Alternative, there would be no project-related risk of increased flooding from a levee failure; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.4-3**

Potential Temporary Construction-Related Drainage and Water Quality Effects. *Drainage and water quality impacts could result from construction activities at the project site.*

PP General construction activities within the project site would be extensive, as shown in Exhibits 2-6a and 2-6b. The interior drainage system would be substantially modified and replaced with a system of three detention basins, 155 acres of drainage parkways, golf course ponds, pipelines, wetlands, and a network of parks. The drainage system in the northern two-thirds of the project site has already been extensively modified, and consists of depressions between piles of dredge tailings left behind during historical gold mining operations. The southern third of the project site consists of generally undisturbed, undeveloped land with natural drainages such as Morrison Creek and a series of small wetlands and seasonal depressions. Because construction activities would occur over such a large area (approximately 3,828 acres), the substantial construction-related alteration of drainages could result in soil erosion and stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from project construction sites as contaminated runoff to on-site and ultimately off-site drainage channels. Many construction-related wastes have the potential to degrade existing water quality by altering the dissolved-oxygen content, temperature, pH, suspended-sediment and turbidity levels, or nutrient content, or by causing toxic effects in the aquatic environment. Project construction activities that are implemented without mitigation could violate water quality standards or cause direct harm to aquatic organisms.

Consequently, project-related impacts on water quality within on- and off-site drainage channels as a result of temporary construction activities are considered **direct** and **potentially significant**. **No indirect** impacts would occur.

HD Construction of buildings and roadways would occur on the same amount of land under the High Density Alternative as under the Proposed Project Alternative, but with a higher density of dwelling units constructed on that same acreage. As with the Proposed Project Alternative,

widespread construction-related alteration of drainages could result in the discharge of contaminated stormwater or sedimentation. Impacts would likely occur at a similar level as under the Proposed Project Alternative because similar construction activities would occur over the same amount of land. This would be a **potentially significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

IM Impacts under the Impact Minimization Alternative would be less than those under the Proposed Project Alternative because building and roadway construction would occur on approximately 500 fewer acres. However, a substantial alteration of the existing drainages would still occur, and temporary construction-related disturbances at the project site would still have the potential to result in the discharge of contaminated stormwater or sedimentation. This would be a **potentially significant, direct** impact. **No indirect** impacts would occur. *[Lesser]*

NF Impacts under the No Federal Action Alternative would be less than those under the Proposed Project Alternative because building and roadway construction would occur on approximately 328 fewer acres. However, substantial alteration of the existing drainages would still occur, and temporary construction-related disturbances at the project site would still have the potential to result in the discharge of contaminated stormwater or sedimentation. This would be a **potentially significant, direct** impact. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities have the potential to result in short-term water quality effects from runoff and sedimentation. Mining operators would be required to prepare a SWPPP, apply BMPs, and comply with County erosion control policies, which would reduce potential water quality effects. Mining activities would therefore result in direct, less-than-significant impacts. However, because no new construction would take place under the No Project Alternative, no project-related construction disturbances would occur; thus, **no direct** or **indirect** project-related impacts would occur. *[Lesser]*

#### Mitigation Measure 3.4-3: Implement Measures or Best Management Practices to Reduce Water Quality Effects of Temporary Construction Activities.

PP, HD, IM, NF Before the approval of grading permits and improvement plans, the project applicant(s) for all project phases shall consult with the City, the SWRCB, and the Central Valley RWQCB to acquire the appropriate regulatory approvals that may be necessary to obtain Section 401 water quality certification, an SWRCB statewide NPDES stormwater permit for general construction activity, and any other necessary site-specific WDRs or waivers under the Porter-Cologne Act. The project applicant(s) shall prepare and submit the appropriate NOIs and prepare the SWPPP and any other necessary engineering plans and specifications for pollution prevention and control. The SWPPP and other appropriate plans shall identify and specify:

- ▶ the use of erosion and sediment-control BMPs, including construction techniques that will reduce the potential for runoff as well as other measures to be implemented during construction;
- ▶ the means of waste disposal;
- ▶ the implementation of approved local plans, nonstormwater-management controls, permanent postconstruction BMPs, and inspection and maintenance responsibilities;

- ▶ the pollutants that are likely to be used during construction that could be present in stormwater drainage and nonstormwater discharges, and other types of materials used for equipment operation;
- ▶ spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills;
- ▶ personnel training requirements and procedures that will be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP; and
- ▶ the appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.

Where applicable, BMPs identified in the SWPPP shall be in place throughout all site work and construction and shall be used in all subsequent site development activities. BMPs may include such measures as the following:

- ▶ Implementing temporary erosion-control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, sandbag dikes, and temporary vegetation.
- ▶ Establishing permanent vegetative cover to reduce erosion in areas disturbed by construction by slowing runoff velocities, trapping sediment, and enhancing filtration and transpiration.
- ▶ Using drainage swales, ditches, and earth dikes to control erosion and runoff by conveying surface runoff down sloping land, intercepting and diverting runoff to a watercourse or channel, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure.

All construction contractors shall retain a copy of the approved SWPPP on the construction site.

**Timing:** Before the approval of grading permits and improvement plans and throughout all site work and construction for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department, State Water Resources Control Board, and Central Valley Regional Water Quality Control Board.

**NP** No mitigation measures are required.

Implementation of Mitigation Measure 3.4-3 would reduce water quality effects from temporary construction activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives because the project applicant(s) would conform with applicable local and state regulations regulating construction discharges. This mitigation measure would reduce potentially significant impacts under these alternatives to a **less-than-significant** level. Several technical studies have been conducted regarding water-quality control feature impacts on groundwater (e.g., City of Fresno Nationwide Urban Runoff Project and *California Storm Water Best Management Practices Handbook* prepared by the Stormwater Quality Task Force) and surface water (e.g., *Cumulative Water Quality Analysis Report for the Lahontan Development 1996–2002* [Huffman & Carpenter 2003]). These studies have identified that water-quality control features such as revegetation, erosion control measures, and detention and infiltration basins have been successful in controlling water quality and avoiding water quality impacts (metals and organic compounds associated with stormwater are typically lost within the first

few feet of the soil of the retention basins associated with groundwater). Technical studies associated with the Lahontan Development (residential and golf course development) demonstrated that the use of a variety of BMPs (e.g., source control, detention basins, revegetation, and erosion control) have been able to maintain surface water quality conditions in adjacent receiving waters (Martis Creek).

**IMPACT  
3.4-4**

**Long-Term Water Quality Effects from Urban Runoff.** *The project would convert a large area of undeveloped land to residential and commercial uses, thereby changing the amount and timing of potential long-term waste discharges in stormwater runoff to Morrison Creek and other drainage courses on-site.*

**PP**

The conversion of undeveloped land to urban land uses would alter the types, quantities, and timing of contaminant discharges in stormwater runoff. Overall, the potential for the Proposed Project Alternative to cause or contribute to long-term discharges of urban contaminants (e.g., oil and grease, fuel, trash) into the stormwater drainage system and ultimate receiving waters would increase compared to existing conditions. Some contaminants associated with existing on-site cattle grazing activities (e.g., sediment, nutrients) would decrease as these uses are phased out during project development. The potential discharges of contaminated urban runoff from paved and landscaped areas could increase or could cause or contribute to adverse effects on aquatic organisms in receiving waters. Urban contaminants typically accumulate during the dry season and may be washed off when adequate rainfall returns in the fall to produce a “first flush” of runoff. The amount of contaminants discharged in stormwater drainage from developed areas varies based on a variety of factors, including the intensity of urban uses such as vehicle traffic, types of activities occurring on-site (e.g., office, commercial, industrial), types of contaminants used on-site (e.g., pesticides, herbicides, cleaning agents, petroleum byproducts), contaminants deposited on paved surfaces, and the amount of rainfall.

The Rio del Oro Specific Plan and Master Drainage Study include specific drainage-design features to reduce the potential adverse impacts from urban stormwater runoff in conformance with County development standards. Stormwater runoff generated within the project site would be collected in new drainage systems that would include water quality treatment measures. As shown in Exhibit 2-6a and discussed below, three detention basins are proposed, which would serve to detain peak flows as well as meet water quality objectives for long-term urban runoff.

- ▶ The proposed northwest basin would consist of 7 acres and would have 4-foot horizontal to 1-foot vertical side slopes. The elevation of the basin bottom would be approximately 100 feet and the basin would have nearly 100 acre-feet of available storage.
- ▶ The proposed central basin would consist of 6 acres and would have 4-foot horizontal to 1-foot vertical side slopes. The elevation of the basin bottom would be 134 feet and the basin would have nearly 70 acre-feet of available storage.
- ▶ The proposed southwest basin would consist of 26 acres and would have 4-foot horizontal to 1-foot vertical side slopes. This basin may be jointly used for recreation. The elevation of the basin bottom would be approximately 110 feet and the basin would have nearly 500 acre-feet of available storage.

Before approval of the final small-lot subdivision map for all project phases, detailed hydrology plans and a water quality study would be required and prepared by a qualified engineer retained by the project applicant(s). Drafts of these plans would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases. These plans would finalize the water quality improvements and further detail the structural and nonstructural BMPs proposed for the project. The plans would include a quantitative analysis of proposed conditions incorporating a combination of parallel low-flow channels, pipe outfalls, and

water quality bioswales that connect with the main drainage channels. The water quality study would provide calculations that show that the proposed water quality BMPs meet or exceed requirements established by the Central Valley RWQCB and would provide details regarding the size, geometry, and functional timing of storage and release (Mathies, pers. comm., 2005). The stormwater drainage system contained in the *Master Drainage Study for Rio del Oro* (Wood Rodgers 2005), and the SWPPP and associated water quality BMPs discussed in Mitigation Measure 3.4-3 above, appears to meet the requirements established in the City's Joint NPDES Permit, which controls water pollution by regulating point sources that discharge pollutants into waters of the United States and regulates all wet- and dry-weather runoff discharge in Sacramento County.

The County's Municipal Stormwater Permit was adopted by the Central Valley RWQCB in December 2002, and the City is a joint participant with the County's NPDES. Participation in the NPDES Municipal Stormwater Permit allows for the City to discharge urban runoff from Municipal Separate Storm Sewer Systems (MS4s) in their municipal jurisdictions. The NPDES permit requires that the City impose water quality and watershed protection measures for all development projects. The NPDES permit also requires every new construction project to:

- ▶ eliminate or reduce nonstormwater discharge to stormwater systems and other waters of the nation,
- ▶ develop and implement a SWPPP, and
- ▶ perform inspections of stormwater control structures and pollution prevention measures.

However, because final design plans and specifications have not been submitted to or approved by the City, implementation of the Proposed Project Alternative could result in **potentially significant, direct** impacts related to the potential for contaminants to enter receiving waters, thus resulting in adverse effects from long-term urban runoff. **No indirect** impacts would occur.

HD

The amount of contaminants discharged in stormwater drainage would likely be higher under the High Density Alternative than under the Proposed Project Alternative because of the increased density of residential, commercial, and industrial land uses. However, the Rio del Oro Specific Plan and Master Drainage Study include specific drainage-design features to reduce the potential adverse impacts from urban stormwater runoff in conformance with County development standards.

Before approval of the final small-lot subdivision map for all project phases, detailed hydrology plans and a water quality study would be required and prepared by a qualified engineer retained by the project applicant(s). Drafts of these plans would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases. These plans would finalize the water quality improvements and further detail the structural and nonstructural BMPs proposed for the project. The plans would include a quantitative analysis of proposed conditions incorporating a combination of parallel low-flow channels, pipe outfalls, and water quality bioswales that connect with the main drainage channels. The water quality study would provide calculations that show that the proposed water quality BMPs meet or exceed requirements established by the Central Valley RWQCB and would provide details regarding the size, geometry, and functional timing of storage and release (Mathies, pers. comm., 2005).

However, because final design plans and specifications have not been submitted to or approved by the City, implementation of the High Density Alternative could result in **potentially significant, direct** impacts related to the potential for contaminants to enter receiving waters,

thus resulting in adverse effects from long-term urban runoff. **No indirect** impacts would occur. *[Greater]*

IM

The amount of contaminants discharged in stormwater drainage would likely be lower under the Impact Minimization Alternative than under the Proposed Project Alternative because of the decreased density of residential, commercial, and industrial land uses. The Rio del Oro Specific Plan and Master Drainage Study include specific drainage-design features to reduce the potential adverse impacts from urban stormwater runoff in conformance with County development standards.

Before approval of the final small-lot subdivision map for all project phases, detailed hydrology plans and a water quality study would be required and prepared by a qualified engineer retained by the project applicant(s). Drafts of these plans would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases. These plans would finalize the water quality improvements and further detail the structural and nonstructural BMPs proposed for the project. The plans would include a quantitative analysis of proposed conditions incorporating a combination of parallel low-flow channels, pipe outfalls, and water quality bioswales that connect with the main drainage channels. The water quality study would provide calculations that show that the proposed water quality BMPs meet or exceed requirements established by the Central Valley RWQCB and would provide details regarding the size, geometry, and functional timing of storage and release (Mathies, pers. comm., 2005).

However, because final design plans and specifications have not been submitted to or approved by the City, implementation of the Impact Minimization Alternative could result in **potentially significant, direct** impacts related to the potential for contaminants to enter receiving waters, thus resulting in adverse effects from long-term urban runoff. **No indirect** impacts would occur. *[Lesser]*

NF

The amount of contaminants discharged in stormwater drainage would likely be lower under the No Federal Action Alternative than under the Proposed Project Alternative because of the decreased amount of residential, commercial, and industrial land uses. The drainage plan for this alternative would incorporate three detention basins, of similar sizes and in the same locations as under the Proposed Project Alternative (Exhibit 2-18). Major conveyance channels and trunk pipelines under this alternative would be substantially similar to those required under the Proposed Project Alternative (Exhibit 2-6a through 2-6b). However, this alternative would require additional drainage crossings/bridges over designated “Natural Resources” areas in order to serve the three proposed single-family residential areas in the southern portion of the project site. Further, a 2- to 3-acre detention basin would be constructed within each of these three single-family residential housing areas to improve storm water quality prior to discharge into the designated Natural Resources area.

Before approval of the final small-lot subdivision map for all project phases, detailed hydrology plans and a water quality study would be required and prepared by a qualified engineer retained by the project applicant(s). Drafts of these plans would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases. These plans would finalize the water quality improvements and further detail the structural and nonstructural BMPs proposed for the project. The plans would include a quantitative analysis of proposed conditions incorporating a combination of parallel low-flow channels, pipe outfalls, and water quality bioswales that connect with the main drainage channels. The water quality study would provide calculations that show that the proposed water quality BMPs meet or exceed

requirements established by the Central Valley RWQCB and would provide details regarding the size, geometry, and functional timing of storage and release (Mathies, pers. comm., 2005).

However, because final design plans and specifications have not been submitted to or approved by the City, implementation of the No Federal Action Alternative could result in **potentially significant, direct** impacts related to the potential for contaminants to enter receiving waters, thus resulting in adverse effects from long-term urban runoff. **No indirect** impacts would occur. *[Lesser]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities have the potential to result in long-term water quality effects from runoff and sedimentation. Mining operators would be required to prepare a SWPPP, apply BMPs, and comply with County erosion-control policies, which would reduce potential water quality effects. Mining activities would therefore result in direct, less-than-significant impacts.

Because no new construction would take place under the No Project Alternative, there would be no project-related water quality impact as a result of long-term urban runoff; thus, **no direct or indirect** impacts would occur. *[Lesser]*

Mitigation Measure: Implement Mitigation Measure 3.4-1.

Implementation of Mitigation Measure 3.4-1 would reduce the potentially significant impact associated with potential long-term water quality effects of urban runoff under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.4-5**

**Effects on Groundwater Recharge.** *Shallow and deep percolation of rainwater and related runoff and consequent depth to groundwater could be affected locally by the development of additional impervious surface, which may limit infiltration and recharge.*

PP

The water resources engineering firm Water Resources and Information Management Engineering, Inc. (WRIME), was retained to evaluate how percolation/infiltration and ultimately the depth to groundwater at the project site would be affected by project development. Changes in groundwater recharge were evaluated by comparing proposed land use scenarios against the baseline developed for the 2002 Zone 40 Water Supply Master Plan (Zone 40 WSMP), which includes hydrologic data for the years 1970–1995. Because the project site is located within the area covered by the Zone 40 WSMP, the analysis for this project used the same Sacramento County Integrated Groundwater and Surface Water Model (SACIGSM) that was used for the Zone 40 analysis.

The Proposed Project Alternative would require a total of approximately 8,888 acre-feet of water per year. Based on the water demand estimate for the Proposed Project Alternative, and a technical analysis performed by WRIME (2005), the water table is expected to be 6 feet higher in the long term as a result of implementing the Proposed Project Alternative. The groundwater table would rise primarily as a result of the introduction of new, project-related surface-water supplies and the associated increase in percolation of seasonally applied landscape irrigation water.

Based on the evaluation of the depth to groundwater in the area, the seasonal fluctuation of depth to groundwater, and the potential future uses of groundwater in the area for local and/or regional

municipal and/or industrial demands, the estimated changes in the depth to groundwater as a result of project implementation would be minimal and well within the existing range of natural seasonal variations. Thus, the minor changes in groundwater levels resulting from reduced recharge of the aquifer from rainfall recharge, when coupled with increased seasonal groundwater recharge from landscape irrigation activities within the project site, would not appreciably change hydrogeologic variables such as groundwater flow or direction. In addition, the minor effects on groundwater hydrologic conditions that could result from implementing the Proposed Project Alternative would not appreciably alter the existing groundwater contaminant plumes that are in the process of being remediated by Aerojet General Corporation (Aerojet) and McDonnell Douglas Corporation (MDC). Additionally, there would be continued monitoring of the groundwater plume, as some changes in flow direction are anticipated. Therefore, potential project-related effects on groundwater recharge would be a **less-than-significant, direct** impact. **No indirect** impacts would occur.

**HD** Construction of buildings and roadways would occur on the same amount of land under the High Density Alternative as under the Proposed Project Alternative, but with a higher density of dwelling units constructed on that same acreage.

The High Density Alternative would require approximately 9,245 acre-feet of water per year. Based on the water demand estimate for the High Density Alternative, the water table is expected to be 2 feet higher in the long term. The reduced depth to groundwater would occur for the same reasons described above for the Proposed Project Alternative. However, because this alternative would apply a greater housing density to the same amount of land, percolation of landscape irrigation water would occur in a smaller area than under the Proposed Project Alternative. Thus, this alternative would raise the water table by only 2 feet, as opposed to the 6 feet expected under the Proposed Project Alternative.

In addition, the minor effects on groundwater hydrologic conditions that would result from implementing the High Density Alternative would not appreciably alter the existing groundwater contaminant plumes that are in the process of being remediated by Aerojet and MDC. Therefore, potential project-related effects on groundwater recharge under the High Density Alternative would be a **less-than-significant, direct** impact. **No indirect** impacts would occur. *[Lesser]*

**IM** The Impact Minimization Alternative would require approximately 7,370 acre-feet of water per year. Based on the water demand estimate for this alternative, the water table is expected to be 6 feet higher in the long term. The reduced depth to groundwater would occur for the same reasons described above for the Proposed Project Alternative.

In addition, the minor effects on groundwater hydrologic conditions that would result from implementing the Impact Minimization Alternative would not appreciably alter the existing groundwater contaminant plumes that are in the process of being remediated by Aerojet and MDC. Therefore, potential project-related effects on groundwater recharge under the High Density Alternative would be a **less-than-significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

**NF** Implementation of the No Federal Action Alternative would require approximately 8,118 acre-feet of water per year. Based on the water demand estimate for this alternative, and based on the results of the studies summarized above for the Proposed Project, High Density, and Impact Minimization Alternatives, it can be inferred that changes to the water table under the No Federal Action Alternative would be nearly identical to those that would occur under the Proposed Project Alternative as discussed above.

In addition, the minor effects on groundwater hydrologic conditions that would result from implementing the No Federal Action Alternative would not appreciably alter the existing groundwater contaminant plumes that are in the process of being remediated by Aerojet and MDC. Therefore, potential project-related effects on groundwater recharge under the No Federal Action Alternative would be a **less-than-significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. A minimal amount of water for mining activities (i.e., washing equipment and wetting on-site roads) would be obtained from East Well No. 1, which is located on the Clark Cattle Company site. This well is currently used for existing mining operations and is periodically monitored. Use of water from this well would not significantly affect groundwater resources.

Mining activities would remove a substantial amount of the existing dredge tailings from the project site. The hydrologic soil type governs the infiltration potential of soils and resulting recharge to the groundwater system. Because the dredge tailings are composed of piles of loose cobbles, they have the greatest water infiltration potential of any soil type in Sacramento County as ranked by the Natural Resources Conservation Service (NRCS 1993). The results of a hydrologic study performed by WRIME (2005) indicate that removal of the surface dredge tailings is not expected to substantially alter the project site's potential for groundwater recharge; the dredge tailings extend well below the ground surface (up to 60 feet), so the same hydrologic soil types would still be present to provide a similar amount of recharge. Mining activities would have a direct, less-than-significant impact on groundwater recharge.

Because no development would occur under the No Project Alternative, there would be no project-related direct or indirect impacts on groundwater recharge; thus, **no direct or indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

### Project Level (Phase 1) Impacts and Mitigation Measures

**IMPACT  
3.4-6**

**Potential Increased Risk of Flooding from Increased Stormwater Runoff.** *Implementation of development Phase 1 would increase the amount of impervious surface on this portion of the project site, thereby increasing surface runoff. This increase in surface runoff would result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and therefore could result in greater potential for on- and off-site flooding.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.4-1 for further discussion of this impact.

Implementation of Mitigation Measure 3.4-1 would reduce the potentially significant impact associated with the potential increased risk of flooding from increased stormwater runoff under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.4-7**

**Exposure of People or Structures to a Significant Risk of Flooding as a Result of the Failure of a Levee.** *Implementation of development Phase 1 could expose people or structures to a significant risk of flooding as a result of the failure of a levee.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.4-2 for further discussion of this impact.

**IMPACT  
3.4-8**

**Potential Temporary Construction-Related Drainage and Water Quality Effects.** *Drainage and water quality impacts could result from construction activities at the project site with implementation of development Phase 1.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.4-3 for further discussion of this impact.

Implementation of Mitigation Measure 3.4-3 would reduce potentially significant water quality effects from temporary construction activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.4-9**

**Long-Term Water Quality Effects of Urban Runoff.** *Development Phase 1 would convert a large area of undeveloped land to residential uses, thereby changing the amount and timing of potential waste discharges in stormwater runoff to drainage courses on-site.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.4-4 for further discussion of this impact.

Implementation of Mitigation Measure 3.4-1 would reduce the potentially significant impact associated with potential long-term water quality effects of urban runoff under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.4-10**

**Effects on Groundwater Recharge.** *Shallow and deep percolation of rainwater and related runoff and consequent depth to groundwater could be affected locally by the development of additional impervious surface, which may limit infiltration and recharge.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. However, it is anticipated that the recharge potential from development and subsequent landscape irrigation activities and the resulting elevation gain of the water table would be less than that predicted in the program level *Rio del Oro Development Project, Groundwater Impact Evaluation Technical Memorandum* (WRIME 2005). Refer to Impact 3.4-5 for further discussion of this impact.

## **CUMULATIVE IMPACTS**

Local hydrology, drainage, and water quality conditions are often affected by regional activities, in addition to local activities and related projects. Past and present projects from the Sierra Nevada (dams and reservoirs, mining operations, logging, urban development) to the Sacramento–San Joaquin Delta (water supply diversions, agricultural diversions, flood control projects, urban development, river channelization) affect hydrology and water quality conditions in Sacramento County. The following evaluation of cumulative hydrology, drainage, and water quality impacts is made in light of the extent to which local and regional activities can affect hydrologic conditions in Sacramento County. However, the focus is on effects on water bodies in the project vicinity and

immediately upstream and downstream (e.g., Morrison Creek) and how the Rio del Oro project and related projects may affect the hydrology, drainage, and water quality conditions locally.

## **Surface Water Quality**

The project, along with several related projects (e.g., Easton Master Planned Community, Sunrise Douglas Master Planned Community, Capital Village, and Villages of Zinfandel) would potentially discharge stormwater runoff to the Morrison Creek watershed, potentially degrading the water quality of the system. As indicated under Impact 3.4-4 of this DEIR/DEIS, the project would change the amount and timing of potential waste discharges in stormwater runoff to Morrison Creek and other drainage courses on-site from existing conditions. However, implementation of structural and nonstructural BMPs would reduce the overall amount of potential contaminant discharges compared to existing conditions.

There are no assurances that the related projects would incorporate the same degree or methods of treatment as the Rio del Oro project; however, each related project that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the Central Valley RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. Therefore, while a greater quantity of urban runoff may be discharged to the Morrison Creek system, and ultimately to the Sacramento River, with implementation of the related projects because of an increase in impervious surface, the associated surface-water quality impacts of each project are expected to be less than significant because of improved or similar quality of runoff compared to existing conditions.

The Rio del Oro project, along with several of the related projects mentioned above, could require construction activities and facilities such as stormwater outfalls, utility crossings, discharges from storm drains, and accidental overflows, which could result in releases of sediment or contaminants to Morrison Creek or tributaries within the Morrison Creek watershed. Mitigation measures included in this section, as well as specific requirements to be included in the SWPPPs prepared for project development, would reduce or eliminate the potential for releases of sediment and contaminants. These measures would reduce impacts on water quality from construction activities associated with the project to less-than-significant levels by reducing releases of contaminants to below applicable water-quality protection standards. As discussed above, technical studies conducted regarding impacts of water-quality control features on groundwater and surface water have demonstrated that the use of a variety of BMPs (e.g., source control, detention basins, revegetation, and erosion control) have been able to maintain surface water quality conditions in adjacent receiving waters. For all of these reasons, the project would not result in a cumulatively considerable incremental contribution to any significant cumulative impacts.

## **Surface Drainage and Flood Control**

The drainage facilities identified as part of the Rio del Oro project would be constructed to safely control and convey stormwater runoff. Proposed detention/water quality basins would mitigate peak runoff leaving the site to levels that downstream infrastructure (crossings) at the Folsom South Canal could convey. Additionally, the project would decrease the peak 100-year flow from the site (Wood Rodgers 2005). Future development upstream of the project site would be required to meet similar standards through mitigation as well. Therefore, the Rio del Oro project would not contribute at all to any cumulative impacts that might be caused by related projects, and it would not result in any cumulatively considerable contribution to any significant cumulative impacts.

## **Groundwater Quality**

As discussed in Section 3.13, “Hazards and Hazardous Materials,” the Rio del Oro project and the related projects on Aerojet property would involve construction, demolition, and operation on land that is known to contain contaminated soil and groundwater. However, project implementation on 2,728 acres of the 3,828-acre site cannot occur until investigation and cleanup activities for remediation of contaminants identified in soil and soil vapor have satisfied the requirements of DTSC and Central Valley RWQCB. These requirements are intended to ensure that the residual concentrations of contaminants at the conclusion of cleanup activities are protective of human

health and the environment. Furthermore, the implementation of a SWPPP and associated BMPs would ensure that the project would not result in a cumulatively considerable incremental contribution to any significant cumulative impact related to groundwater quality or to any resulting hazards to public health.

#### **3.4.4 RESIDUAL SIGNIFICANT IMPACTS**

With implementation of the mitigation measure listed above, project implementation would not result in any residual significant impacts related to increased risk of flooding from stormwater runoff or levee failure, water quality effects from long-term urban runoff, short-term alteration of drainages and associated surface water quality and sedimentation, groundwater recharge, or groundwater quality.

## 3.5 UTILITIES AND SERVICE SYSTEMS

### 3.5.1 AFFECTED ENVIRONMENT

#### WATER SUPPLY

The Rio del Oro project site is located in central Sacramento County within the service area of Sacramento County Water Agency's (SCWA's) Zone 40. SCWA is responsible for supplying water to Zone 40, which consists of 86,000 acres of agricultural, residential, and industrial land in central Sacramento County and encompasses portions of the cities of Elk Grove and Rancho Cordova. SCWA Zone 40 is the wholesale water purveyor that provides water to the retail customers, SCWA Zone 41 and the California-American Water Company (Cal-Am), a privately owned retail purveyor regulated by the California Public Utilities Commission.

SCWA's *Zone 40 Water Supply Master Plan (Zone 40 WSMP)* (SCWA 2005) identified a land area for urban development that could be served by firm water supplies negotiated under existing contracts in the Water Forum Agreement. In addition, SCWA has surface-water entitlements, is a groundwater appropriator, and has entered into an agreement to beneficially reuse remediated groundwater from the Aerojet General Corporation (Aerojet), Boeing, and McDonnell Douglas Corporation (MDC) properties.

SCWA has undertaken an extensive planning effort for the facilities and supplies necessary to serve future growth and development within the central portion of Sacramento County known as Zone 40. Zone 40 also includes a subarea within its service area known as the 2030 Study Area. SCWA recently prepared and adopted its Zone 40 WSMP (SCWA 2005). The Zone 40 WSMP focuses on the central portion of the county and describes the facilities and the construction financing mechanism needed to implement a phased water supply program to meet the region's water needs into the foreseeable future, specifically the year 2030. The goal of the master plan is to define 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; and groundwater extraction, treatment, and distribution facilities. These facilities would be used for the production, conservation, transmission, and distribution of wholesale and retail water supplies in the year 2030. The Zone 40 WSMP was adopted by SCWA in February 2005 and includes the most recent and best information available regarding existing and future water demands, supplies, and facilities within central Sacramento County. Table 3.5-1 below identifies existing and projected 2000 and 2030 land use and water demands within SCWA's Zone 40 and 2030 Study Area.

An element of the Zone 40 WSMP is the construction of SCWA's proposed Eastern County Replacement Water Supply Project (RWSP). The RWSP would construct the necessary infrastructure to deliver water supplies to the Rio del Oro project site. In addition, this project is a key element in facilitating the beneficial reuse of remediated groundwater supplies within Zone 40. Environmental review for this project is anticipated to be completed by summer 2006 with construction of proposed water supply facilities completed by 2011.

The permanent long-term water supply cannot be delivered to the Rio del Oro project site until the facilities described above have been approved and constructed (currently estimated at 2011). If a temporary supply of water from another source could be secured until the completion of these water projects, some initial development of the project could occur. This short-term "gap" water supply is currently conceptual and has not been fully developed in order to evaluate in detail whether it can be determined to be a reliable source of water.

The project applicant(s) have discussed the availability of a gap water supply with Golden State Water Company (GSWC) and have identified potential water supply options for providing gap water to the project. These gap supplies could support a portion of the initial phases of project development (estimated in summer/fall 2007) until SCWA has constructed the facilities necessary to deliver permanent water supplies to the project site.

**Table 3.5-1  
SCWA Zone 40 Current and Projected Water Demands**

Land Use Category	Year 2000 Land Use and Water Demands			Year 2030 Water Demands		
	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
<b>Developed Land Use</b>		<b>7,419</b>	<b>23,023</b>		<b>41,857</b>	<b>104,645</b>
Right-of-Way	0.25	726	182	0.21	2,526	530
<b>Water Use Subtotal</b>			<b>23,205</b>			<b>105,175</b>
<b>Water System Losses (7.5%)</b>			<b>1,740</b>			<b>7,888</b>
<b>Zone 40 Water Production</b>			<b>24,945</b>			<b>113,063</b>
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
<b>Total Land and Water Use</b>		<b>46,621</b>	<b>24,945</b>		<b>46,620</b>	<b>113,063</b>
Notes: AF/Ac/Yr = acre-feet per acre per year; AFY = acre-feet per year; NA = not applicable						
SCWA Zone 40 does not supply water to meet agricultural demands within its service area.						
Minor discrepancies in acreage totals are a result of rounding errors in land use data.						
Source: SCWA 2005						

The City of Rancho Cordova (City) also conducted a Water Supply Evaluation for the *City of Rancho Cordova General Plan (City General Plan)* (City of Rancho Cordova 2006). The Water Supply Evaluation addressed water supply issues for the City General Plan and included 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 (which are estimated to build out by 2030) and larger planning area (which is assumed to build out by 2050),
- ▶ existing available water supplies that could meet a portion of the City’s projected buildout water demands,
- ▶ the area within the City for which long-term water supplies have been secured,

- ▶ 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 the City.

## WASTEWATER

According to the City General Plan, all new residential, industrial, and commercial developments must be connected to a public sewer system.

Sanitary-sewer service for the project site would be provided by the Sacramento Regional County Sanitation District (SRCSD) and County Sanitation District No. 1 (CSD-1). SRCSD is responsible for collection by interceptors (sanitary sewers that are designed to carry flows in excess of 10 million gallons per day [mgd]) and for wastewater treatment. CSD-1 is responsible for local collection facilities, including trunk sewers with capacity of 1–10 mgd. The CSD-1 collection system includes more than 2,400 miles of trunk sewer pipelines categorized according to size, function, and hydraulic capacity. These districts own, operate, and are responsible for the public collection, trunk, and interceptor sewer systems throughout Sacramento County as well as the Sacramento Regional Wastewater Treatment Plant (SRWTP) located south of Freeport. Although the project site is located within the sphere of influence of both County public sewer providers, it must be annexed to SRCSD and CSD-1 before service can be provided.

The only existing public sewer facilities in the vicinity of the project site are small 6- to 8-inch sewer laterals adjacent to the western site boundary. The Cordova Industrial Park on the western site boundary is served by public sewer facilities. However, these facilities are not currently sized to support any development at the project site. Existing on- and off-site facilities are shown in Exhibits 2-10a and 2-10b in Chapter 2, “Alternatives.”

The project site is almost entirely within CSD-1’s AJ (Aerojet) Douglas White Rock Trunk Shed sewer system, which serves flows between 1 and 10 mgd. The northwest corner of the project site is part of the AJ Trunk Shed, which is planned to be lifted to the AJ Interceptor, Section 2. None of the AJ Douglas White Rock Trunk Shed or AJ Trunk Shed facilities has been constructed. Construction of these facilities on the project site is anticipated to begin in 2011, with final completion in 2020. The AJ and Laguna Creek Interceptors, as designated in the 2000 SRCSD Interceptor System Master Plan, would be constructed by SRCSD and would serve the project site beginning in 2020. The AJ Interceptor, Section 2, would run along the western side of the project site, then south along Sunrise Boulevard to a connection point with the AJ Interceptor, Section 4, near the intersection of Sunrise Boulevard and Douglas Road. From this point, flows would be conveyed south to the Laguna Creek Interceptor. Discharge from the entire project site would ultimately flow into the Laguna Creek Interceptor after its completion (2024) (Wood Rodgers 2003).

The County evaluated the environmental impacts of constructing trunk and interceptor sewers that would serve the project, as well as most of the Sacramento region, in the *CSD-1 Sewerage Facilities Expansion Master Plan, Final Environmental Impact Report* (County of Sacramento 2004a) and the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report* (County of Sacramento 2003). Both EIRs were certified and the master plans were approved.

The overall goal of the *CSD-1 Sewerage Facilities Master Plan* is to estimate the future capital improvement needs of the CSD-1 trunk sewer system, both for capacity-relief projects for the existing system and for expansion projects to serve newly developed areas. The master plan translates existing land use projections into wastewater flow estimates, identifies trunk relief and expansion projects, combines them to create a capital improvement program, and assesses several financial elements of the CSD-1 trunk program. Project-related facilities evaluated include trunk sewers in the AJ and AJ Douglas White Rock trunk sheds (along with other trunk sewers in the southern and southeastern parts of the county).

The purpose of the *SRCSD Interceptor System Master Plan 2000* is to identify near- and long-term improvements needed for the regional wastewater conveyance system. The master plan describes the regional interceptor projects, along with their timing and costs, so that existing and future deficiencies in the regional system can be more accurately identified and predicted and strategic approaches to remedying these deficiencies can be developed. The plan uses new information regarding population growth, wastewater flow generation, and actual system responses to wet weather. Project-related facilities evaluated include the Bradshaw, AJ, and Laguna Creek Interceptors.

Collected wastewater flows are ultimately transported into the SRWTP. The SRWTP receives and treats an average of 165 mgd (as of 2005) and has a permitted dry-weather flow design capacity of 181 mgd. Treated effluent charges are conveyed to the SRWTP and ultimately discharged into the Sacramento River. The SRWTP has an NPDES permit issued by the Central Valley RWQCB for discharge of up to 181 mgd of treated effluent into the Sacramento River. SRCSD has prepared the *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan Final Environmental Impact Report* (County of Sacramento 2004b), which provides for the expansion of the SRWTP to 218 mgd. The master plan for the SRWTP provides a phased program of recommended wastewater treatment facilities and management programs to accommodate planned growth (including the project) and to meet existing and anticipated regulatory requirements through the year 2020. The master plan addresses both public-health and environmental-protection issues while ensuring reliable service at affordable rates for SRCSD customers. The key goals of the master plan are to provide sufficient capacity to meet growth projections and an orderly expansion of SRWTP facilities, comply with applicable water quality standards, and provide for the most cost-effective facilities and programs from a watershed perspective. As part of the expansion, the SRWTP has applied to the Central Valley RWQCB for a NPDES permit to accommodate these additional discharges into the Sacramento River.

## **SOLID WASTE**

Browning Ferris Industries waste services began providing pickup and disposal of solid waste in Rancho Cordova on February 1, 2005. Waste is transported to the Kiefer Landfill, near the intersection of Grant Line Road and Kiefer Boulevard, or to a transfer station near Fruitridge Road. Kiefer Landfill is the primary municipal solid-waste disposal facility in Sacramento County. Waste is accepted from the general public, businesses, and private waste haulers.

At present, the Kiefer Landfill is permitted to accept a maximum of 10,815 tons per day (tpd) of solid waste; however, the average intake is only approximately 6,000 tpd. The landfill has a total capacity of 117 million cubic yards (58 million tons). The Kiefer Landfill is classified as a “major landfill,” which is defined as a facility that receives more than 50,000 tons of solid waste per year. Currently, the landfill is operating below permitted capacity and will have capacity for the next 40 years based on current disposal rates (CIWMB 2004a).

The California Integrated Waste Management Act (CIWMA) of 1989, also commonly known as Assembly Bill (AB) 939, requires local agencies to implement source reduction, recycling, and composting (see discussion under “Regulatory Framework” below). The countywide Integrated Waste Management Plan requires recycling programs that are expected to result in a 50% diversion away from landfills, thereby extending the life of landfills.

Sacramento County had a diversion rate of 55% in 2000 (CIWMB 2005). The County continues to make substantial progress in diverting waste from landfills. Licensed solid-waste authorities hauled approximately 292,000 tons of waste materials in the county in 2000. In 2002, approximately 90,000 tons of waste were diverted from local landfills and the waste stream, which equates to a 31% reduction in landfill waste (City of Rancho Cordova 2005).

The California Integrated Waste Management Board (CIWMB) provides an average per-capita solid-waste disposal rate for Sacramento County of 0.36 ton per resident per year (CIWMB 2004b). Business waste-disposal rates calculated by the CIWMB range from 0.3 ton per year for general-merchandise stores to 3.1 tons per year for restaurants (CIWMB 2004c).

## **ELECTRICITY**

Sacramento Municipal Utility District (SMUD) is the electrical service provider for Rancho Cordova. SMUD currently generates approximately 1,197 megawatts (MW) of electricity per day and delivers it to an approximately 900-square-mile area within Sacramento County. Approximately 57% of the electricity is generated by hydroelectric plants and approximately 41% is generated by thermal plants. The remaining electricity is generated by either wind or solar power.

SMUD also has long-term contracts with other generators to provide an additional 1,189 MW of electricity for distribution per day. Throughout the year, SMUD buys and sells energy and capacity on a short-term basis to meet load requirements and reduce costs. SMUD is currently in the process of permitting the first phase of the Cosumnes Power Plant (CPP), which is part of SMUD's long-range plan to meet the growing power needs of Sacramento County. The CPP would be a natural gas-fired electrical generating facility and is anticipated to be constructed in two phases (Phase 1 started in early 2004). The CPP would provide SMUD with a total of 1,000 MW additional capacity. Phase 1 of the CPP (500 MW) is scheduled to begin serving SMUD costumers in 2006 (SMUD 2004, n.d.).

All existing electrical lines on the project site are aboveground. Electrical lines in the northern portion of the project site begin at the intersection of Sunrise Boulevard and White Rock Road and follow White Rock Road east for 1.1 miles. In the southern portion of the project site, electrical lines begin at the intersection of Sunrise Boulevard and Douglas Road and parallel Douglas Road for approximately 0.9 mile. In the eastern portion of the project site, electrical towers intersect Grant Line Road 1 mile north of Douglas Road. These towers continue south on the project site and intersect Douglas Road 0.8 mile west of the Douglas Road/Grant Line Road intersection. Additional electrical lines begin from a point on White Rock Road approximately 2.8 miles from its intersection with Sunrise Boulevard and turn south onto the project site for 1 mile to SMUD substation 69 (12 kilovolts [kV]), then continue approximately 3.5 miles before going underground and continuing to Douglas Road.

## **NATURAL GAS**

Pacific Gas and Electric Company (PG&E) is the natural gas service provider for Rancho Cordova. Gas is delivered to Rancho Cordova through portions of PG&E's 43,000-mile natural-gas pipeline system. The existing facilities in the city consist of 4.5- to 16-inch conveyance pipelines. PG&E's existing conveyance lines at the project site run underground from the Sunrise Boulevard/White Rock Road intersection and follow White Rock Road east for approximately 2.3 miles. All construction and maintenance activities for natural gas facilities are the responsibility of PG&E.

## **TELECOMMUNICATIONS**

AT&T Inc. (AT&T) (formerly SBC Communications [SBC]) has existing underground and overhead telephone lines in the vicinity of the project site. Underground and aboveground communications lines begin from a point on White Rock Road approximately 1.5 miles from its intersection with Sunrise Boulevard in the northern portion of the project site. Underground communications lines continue east on White Rock Road for 2 miles, and aboveground communications lines continue east for 1.3 miles. From here, aboveground lines continue in separate directions; one continues northeast to the intersection of Grant Line Road and the other turns south onto the project site for approximately 1.2 miles. Underground telephone lines in the southern portion of the project site begin at the Douglas Road/Sunrise Boulevard intersection and parallel Douglas Road for approximately 2.9 miles to its intersection with Grant Line Road. These communications lines are shared with other communications service providers.

## **3.5.2 REGULATORY FRAMEWORK**

### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no federal plans, policies, regulations, or laws related to utilities and service systems that are applicable to the proposed project or alternatives under consideration.

### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **Senate Bill 610**

The State of California has legislation 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), such as the Rio del Oro project. 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 projects 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 Urban Water Management Plan (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 water supply assessment 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) will meet the project’s water demand in addition to the system’s existing and planned future uses, including agricultural and manufacturing uses. 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 approval findings.

#### **California Integrated Waste Management Act**

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the California Legislature passed the CIWMA of 1989 (AB 939 [Chapter 1095, Statutes of 1989]), effective January 1990. According to the CIWMA, all cities and counties were required to divert 25% of all solid waste from landfill facilities by January 1, 1995, and 50% by January 1, 2000. Sacramento County had a diversion rate of 55% in 2000. Each city is required to develop a solid-waste plan demonstrating integration of the CIWMA plan with the county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. The City prepared an integrated-waste plan concurrently with its General Plan, which was adopted on June 26, 2006.

#### **Energy Efficiency Standards for Buildings**

The project would be required to comply with recently adopted changes to Title 24 of the California Code of Regulations regarding energy efficiency, which became effective on October 1, 2005. These new energy efficiency standards were developed in response to the state’s energy crisis as well as AB 970 (Chapter 329, Statutes of 2000), the California Energy and Reliability Act of 2000. The goals of the recent changes to Title 24 are to improve energy efficiency of residential and nonresidential buildings, minimize impacts during peak energy-usage periods, and reduce impacts on overall state energy needs.

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

### Rancho Cordova General Plan

Goals and policies from the City General Plan relating to utilities and service systems that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### 3.5.3 ENVIRONMENTAL CONSEQUENCES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines (except where noted below), a utilities and service systems impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ create demand for wastewater treatment/disposal beyond available service;
- ▶ create demand for electrical or natural-gas service that is substantial in relation to the existing demands;
- ▶ exceed wastewater treatment requirements of the Central Valley RWQCB;
- ▶ 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;
- ▶ have insufficient water supplies available to serve the project from existing or permitted entitlements and resources, or require new or expanded entitlements;
- ▶ result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- ▶ generate solid waste beyond the capacity of existing landfills;
- ▶ violate federal, state, or local statutes and regulations related to solid waste; or
- ▶ result in inefficient, wasteful, and unnecessary consumption of energy (based on Appendix F of the State CEQA Guidelines).

#### ANALYSIS METHODOLOGY

Impacts on utilities and service systems that would result from project implementation were identified by comparing existing service capacity and facilities against future demand associated with project implementation. Where possible, a quantitative comparison was used to determine impacts of the project on future demands. Evaluation of potential utility and service systems impacts was based on a review of documents pertaining to the project site and surrounding area, including the City General Plan Existing Conditions Report (City of Rancho Cordova 2005), the Water Supply Evaluation prepared for the City General Plan (City of Rancho Cordova 2006), the EIR for the *Zone 40 Water Supply Master Plan* (Sacramento County Water Agency 2004), the *CSD-1 Sewerage Facilities Expansion Master Plan* (CSD-1 2000), the *SRCS D Interceptor Master Plan 2000* (SRCS D 2000), the *EIR for the Sacramento Regional Wastewater Treatment Plant 2020 Master Plan* (County of Sacramento 2004b), the Rio del Oro Conceptual Sewer Study (Wood Rodgers 2003, 2005), and the CIWMB's waste disposal rates for residential and business uses. Additional information was obtained through consultation with appropriate agencies, such as CSD-1, SRCS D, SMUD, PG&E, and SBC (now AT&T), as well as field review of the project site and surroundings.

Various off-site utilities and other infrastructure improvements would be needed to support the project both in the interim and at buildout, as described in Chapter 2, “Alternatives.” The following off-site improvements have received CEQA clearance (certified environmental documents). Although these facilities are not evaluated in further in this DEIR/DEIS, a summary of their environmental impacts have been incorporated by reference and are summarized in this section.

- ▶ Bradshaw Sewer Interceptor
- ▶ AJ Sewer Interceptor
- ▶ Laguna Creek Sewer Interceptor

## IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

### Program Level Impacts and Mitigation Measures

<b>IMPACT 3.5-1</b>
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**Increased Demand for Initial Water Supplies and Infrastructure.** *Project implementation would result in increased demand for water supply. Because permanent water supply facilities would not be available until 2010, initial transmission facilities and an initial water supply would be required to convey water for implementation of development phases or projects before 2010.*

PP, HD, IM

The permanent long-term water supply cannot be delivered to the Rio del Oro project site until the SCWA facilities have been approved and constructed (currently estimated at 2011).

The project applicant(s) have discussed the availability of a gap water supply with GSWC and have identified potential water supply options for providing gap water to the project site. These gap supplies, listed and qualified below, could support a portion of the initial phases of development of the project until SCWA has constructed the facilities necessary to deliver permanent water supplies to the project site.

- ▶ Option A—Existing GSWC water supply capacity that exceeds its current projected maximum-day system demand could be delivered to the project.
- ▶ Option B—Existing GSWC wells that have been taken out of service as a result of groundwater contamination could be provided with wellhead treatment to remove contaminants. If these wells are then brought back online, the GSWC system could have excess capacity that could be delivered to the project, as described above under Option A.
- ▶ Option C—If water treated at GenCorp’s groundwater extraction and treatment plant J (GET J) is piped to the nearby Coloma/Pyrites Water Treatment Plant and blended with other potable surface water supplies, the GSWC system could have excess capacity that could be delivered to the project, as described above under Option A.

Options B and C would require a change in current regulatory agency policy regarding sources of drinking water supply. Furthermore, any delivery of a gap water supply for initial project development would require an agreement with SCWA that must describe capital improvements required to deliver the water, the source of funding for any such improvements, the price of gap water, and a commitment of the gap supply. Other existing agreements that address water supply in this area may need to be amended.

Both on- and off-site water conveyance facilities (e.g., pipelines and pump stations) would need to be constructed to deliver water from GSWC's facilities to the project site. Although the project applicant(s) have provided basic plans showing proposed water supply infrastructure (Exhibits 2-9a through 2-9c), final design plans and specifications have not been submitted or approved and the gap water supply has not been fully developed to evaluate in detail whether it can be determined to be a reliable source of water. Therefore, this **direct** impact would be **potentially significant**. **No indirect** impacts would occur. *[Similar]*

NF

As described above, the permanent long-term water supply cannot be delivered to the Rio del Oro project site until the SCWA facilities have been approved and constructed (currently estimated at 2011). The project applicant(s) have discussed the availability of a gap water supply with GSWC and have identified potential water supply options for providing gap water to the project site. These gap supplies, listed and qualified above as Options A, B, and C, could support a portion of the initial phases of development of the project until SCWA has constructed the facilities necessary to deliver permanent water supplies to the project site. The gap water supply has not been fully developed to evaluate in detail whether it can be determined to be a reliable source of water.

Because the project applicant(s) would not be obtaining a Section 404 of the Clean Water Act permit from USACE, they would not be able to install water supply infrastructure in the southern portion of the project site that is necessary to serve proposed areas of urban development in Rancho Cordova. The 24-inch water supply pipeline along Americanos Boulevard and through the Security Park (not part of the proposed Rio del Oro project) is required to provide connectivity with Cal-Am's storage and pumping facility at the corner of Douglas Road. Furthermore, infrastructure planning for future water supply requires that a water supply pipeline be installed in a north-south direction through the Rio del Oro project site, because in the future, water for the Sunrise Douglas Community Plan, SunCreek Specific Plan, Rio del Oro Specific Plan, and the Easton Specific Plan, and Westborough Specific Plan areas would be provided from the Freeport Water Treatment Plant to be built in south Sacramento County. Therefore, water supply pipelines need to be installed along Jaeger Road south of Douglas Road, along Rancho Cordova Parkway (the extension of Jaeger Road) through the Rio del Oro project site, and continuing north across White Rock Road to provide future water service for planned area development.

It is possible that water supply pipelines could still be installed along what would have been the southern ends of Rancho Cordova Parkway and Americanos Boulevard following the same alignment shown in Exhibits 2-9a through 2-9c.

Other potential water supply pipeline alignments could be designed to travel west from the southern portion of the project site to Sunrise Boulevard and/or travel east to Douglas Road. This alignment would connect to existing infrastructure on Sunrise Boulevard and/or Douglas Road. No plans showing this proposed water supply infrastructure have been developed or analyzed.

Installation of water supply pipelines from the southern portion of the project site to Sunrise Boulevard and/or Douglas Road would eliminate the water supply pipeline that would be installed in a north-south direction through the Rio del Oro project site, potentially affecting off-site infrastructure capacity. Water conveyance facilities for the Sunrise Douglas Community Plan, SunCreek Specific Plan, Easton Specific Plan, and Westborough Specific Plan areas would be provided around the periphery of the project site through Sunrise Boulevard to the corner of Douglas Road. Subsequently, water conveyance facilities planned for and approved in the *Zone 40 Water Supply Master Plan* prepared by SCWA (2005) for these roads would likely not have sufficient capacity to serve these developments and would potentially require upgrades to provide an adequate level of service. Upgrades to these facilities could be inconsistent with SCWA's water

supply master plan.

Installation of water supply pipelines through the designated Natural Resource areas would be required using HDD techniques to avoid features considered jurisdictional by the USACE in the southern portion of the project site. HDD techniques require large construction areas to accommodate pipes and additional construction equipment need for tunneling or boring. Operation and maintenance of water conveyance facilities through the designated Natural Resources areas would be greater because of a lack of access to the pipeline. Therefore, impacts associated with the No Federal Action Alternative would be greater than those for the other project alternatives. This **direct** impact would be **potentially significant**. No **indirect** impacts would occur. *[Greater]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, initial water supplies and associated infrastructure would not be required; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

**Mitigation Measure 3.5-1a: Submit Proof of Gap Water Availability and Implement On- and Off-Site Infrastructure Delivery System or Assure that Adequate Financing is Secured.**

PP, HD, IM,  
NF

Before the approval of any small-lot tentative subdivision map for a proposed residential project of more than 500 dwelling units, the City shall comply with Government Code Section 66473.7. Before the approval of any small-lot tentative subdivision map for a proposed residential project of 500 or fewer units, the City need not comply with Section 66473.7, or formally consult with any public water system that would provide water to the affected area; nevertheless, the City shall make a factual showing or impose conditions similar to those required by Section 66473.7 to ensure an adequate water supply for development authorized by the map.

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, the project applicant(s) of that project phase shall demonstrate the availability of a long-term, reliable water supply from a public water system for the amount of development that would be authorized by the final subdivision map or project-specific discretionary nonresidential approval or entitlement. Such a demonstration shall consist of information showing that either existing sources are available or needed supplies and improvements will be in place before occupancy.

**Timing:** Before approval of final small-lot maps or, for nonresidential projects, before issuance of use permits, building permits, or other entitlements.

**Enforcement:** City of Rancho Cordova Building Department.

**Mitigation Measure 3.5-1b: Identify Alternative Water Supply Pipeline Alignments and Implement Measures to Mitigate Impacts.**

NF To implement the No Federal Action Alternative, the project applicant(s) must identify alternative water supply pipeline alignments and their connection to existing infrastructure on Sunrise Boulevard and/or Douglas Road. Implementation of alternative water pipeline alignments would be subject to separate CEQA compliance.

It is possible that water supply pipelines could still be installed along what would have been the southern ends of Rancho Cordova Parkway and Americanos Boulevard following the same alignment shown in Exhibits 2-9a through 2-9c.

Other potential water supply pipeline alignments could be designed to travel west from the southern portion of the project site to Sunrise Boulevard and/or travel east to Douglas Road. This alignment would connect to existing infrastructure on Sunrise Boulevard and/or Douglas Road.

Alternative alignments have not been subject to CEQA compliance, and therefore, the full extent of impacts cannot be estimated. However, it is assumed that implementation of alternative pipeline alignments would result in significant biological resource impacts, as well as significant construction-related impacts (i.e., construction-related traffic, emission, water quality, and noise impacts). Mitigation identified in this DEIR/DEIS to reduce construction-related impacts would need to be implemented, as well as any specific permit conditions.

**Timing:** Before approval of the Rio del Oro Specific Plan.

**Enforcement:** City of Rancho Cordova Building Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.5-1a would reduce potentially significant impacts related to initial water supply and infrastructure under the Proposed Project, High Density, and Impact Minimization Alternatives to a **less-than-significant** level. Implementation of Mitigation Measure 3.5-1b would partially reduce impacts under the No Federal Action Alternative, but not to a less-than-significant level. Identification of alternative water supply pipeline alignments would fall under the jurisdiction of the County and SWCA; therefore, neither the City nor the project applicant(s) can guarantee approval of these alternative pipeline alignments. Additionally, it is possible that these alternative alignments would be inconsistent with SWCA’s water supply master plan and would be subject to separate CEQA compliance. For these reasons, this impact would remain **significant and unavoidable**. If the County, SWCA, and other potentially affected agencies cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT  
3.5-2**

**Increased Demand for Permanent Water Supplies.** *Project implementation would increase demand on the existing water supply available to the City of Rancho Cordova.*

PP, HD, IM, NF The project would be served by SCWA Zone 40 through its conjunctive-use water supply system. SCWA has surface-water entitlements, is a groundwater appropriator, and has entered into an agreement to beneficially reuse remediated groundwater from the Aerojet, Boeing, and MDC properties. Aerojet General Corporation has constructed numerous Groundwater Extraction and Treatment (GET) facilities throughout their Rancho Cordova facility to cleanup contaminated groundwater pursuant to orders from the U.S. Environmental Protection Agency (EPA) and California Department of Toxic Substances Control (DTSC) (see Section 3.13 of this DEIR/DEIS,

“Hazards and Hazardous Materials”). The EIR for the *Zone 40 Water Supply Master Plan*, which was prepared by SCWA (2003, 2004) and has been certified, discussed Aerojet’s treatment systems and fully evaluated the potential hazards associated with and future uses of this groundwater after treatment, which include supply of this water to meet various potable water demands in Sacramento County. The Water Supply Evaluation prepared for the City General Plan (City of Rancho Cordova 2006) evaluated the ability of water supplies to meet demand at buildout of the City and its larger planning area. The Eastern County Water Supply Plan (EIR currently in process) describes the water supply facilities that would be constructed by the County to recapture the groundwater (after it has been treated by Aerojet) and the related distribution facilities to end users such as the Rio del Oro Specific Plan project. Assuming the Eastern County Water Supply Plan is approved, Sacramento County would not use the treated Aerojet water unless Aerojet demonstrates that it meets all NPDES permit requirements. Because Aerojet has been treating the groundwater for several years and has consistently demonstrated to EPA and DTSC that its treated groundwater meets all regulatory NPDES permit thresholds, the treated groundwater is considered a reliable source of potable water. A water supply assessment, in compliance with SB 610 has been prepared to determine whether the projected water supplies available would meet the water demand associated with the project, in addition to the existing and planned future uses (Appendix D). The water supply assessment concluded that water supplies are available to meet the project’s demands. The SWCA Board of Directors adopted the Rio del Oro Water Supply Assessment in June 2006.

For purposes of this analysis, it can be assumed that the water supply assessment would reflect availability of water supplies to meet water demand associated with the High Density, Impact Minimization, and No Federal Action Alternatives as well because the water demands from those alternatives are similar to or less than that of the Proposed Project Alternative. The following impact analysis summarizes the projected water supplies and demand from the water supply assessment.

Buildout water demands for the project were projected by applying a water demand factor to each proposed land use. The land uses and water demands under the Proposed Project Alternative were identified in the Draft *Rio del Oro Plan Area Water Supply Master Plan* (Wood Rodgers 2004) and are summarized in Table 3.5-2 below.

Land Use	Area (acres)	Unit Water Demand Factor <sup>1</sup> (AF/ac/yr)	Water Demand (AFY)
Single-Family	1,597	2.89	4,615
Multifamily—Low Density	237	3.7	877
Multifamily—High Density	86	4.12	354
Commercial	293	2.75	806
Industrial	282	2.71	764
Public	161.5	1.04	168
Public Recreation	170	3.46	588
Right-of-Way	471	0.21	99
Vacant	531	0	-
<b>Total</b>	<b>3,828.5</b>		<b>8,271</b>
System Losses 7.5%			620
<b>Total Demand</b>			<b>8,891</b>
Note: AF/ac/yr = acre-feet per acre per year; AFY = acre-feet per year.			
<sup>1</sup> The unit water demand factors provided in this table are consistent with the unit water demand factors used in the <i>Zone 40 Water Supply Master Plan</i> and the 2000 Water Forum Agreement.			
Source: Wood Rodgers 2004			

The land uses and water demands under the High Density, Impact Minimization, and No Federal Action Alternatives are summarized in Tables 3.5-3, 3.5-4, and 3.5-5 below.

<b>Table 3.5-3 Summary of Program Level Land Use and Water Demands, High Density Alternative</b>			
Land Use	Area (acres)	Unit Water Demand Factor <sup>1</sup> (AF/ac/yr)	Water Demand (AFY)
Single-Family	1,567	2.89	4,829
Multifamily—Low Density	249	3.7	921
Multifamily—High Density	104	4.12	428
Commercial	293	2.75	806
Industrial	282	2.71	764
Public	161.5	1.04	168
Public Recreation	170	3.46	588
Right-of-Way	471	0.21	99
Vacant	531	0	-
<b>Total</b>	<b>3,828.5</b>		<b>8,603</b>
System Losses 7.5%			645
<b>Total Demand</b>			<b>9,248</b>

Note: AF/ac/yr = acre-feet per acre per year; AFY = acre-feet per year  
<sup>1</sup> The unit water demand factors provided in this table are consistent with the unit water demand factors used in the *Zone 40 Water Supply Master Plan* and the 2000 Water Forum Agreement.  
 Sources: Wood Rodgers 2004, data compiled by EDAW in 2005

<b>Table 3.5-4 Summary of Program Level Land Use and Water Demands, Impact Minimization Alternative</b>			
Land Use	Area (acres)	Unit Water Demand Factor <sup>1</sup> (AF/ac/yr)	Water Demand (AFY)
Single-Family	1,032.5	2.89	2,984
Multifamily—Low Density	241	3.7	892
Multifamily—High Density	173.5	4.12	642
Commercial	286	2.75	787
Industrial	261	2.71	707
Public	152	1.04	158
Public Recreation	167	3.46	578
Right-of-Way	497	0.21	104
Vacant	1,018.5	0	-
<b>Total</b>	<b>3,828</b>		<b>6,852</b>
System Losses 7.5%			514
<b>Total Demand</b>			<b>7,366</b>

Note: AF/ac/yr = acre-feet per acre per year; AFY = acre-feet per year  
<sup>1</sup> The unit water demand factors provided in this table are consistent with the unit water demand factors used in the *Zone 40 Water Supply Master Plan* and the 2000 Water Forum Agreement.  
 Sources: Wood Rodgers 2004, data compiled by EDAW in 2005

Land Use	Area (acres)	Unit Water Demand Factor <sup>1</sup> (AF/ac/yr)	Water Demand (AFY)
Single-Family	1,477	2.89	4,269
Multifamily—Low Density	210	3.7	777
Multifamily—High Density	85	4.12	350
Commercial	238	2.75	655
Industrial	232	2.71	629
Public	152.5	1.04	159
Public Recreation	182	3.46	630
Right-of-Way	393	0.21	83
Vacant	859	0	-
<b>Total</b>	<b>3,828</b>		<b>7,552</b>
System Losses 7.5%			566
<b>Total Demand</b>			<b>8,118</b>
Note: AF/ac/yr = acre-feet per acre per year; AFY = acre-feet per year			
<sup>1</sup> The unit water demand factors provided in this table are consistent with the unit water demand factors used in the Zone 40 Water Supply Master Plan and the 2000 Water Forum Agreement.			
Sources: Wood Rodgers 2004, data compiled by EDAW in 2005			

As shown above, the total projected water demands are 8,891 AFY for the Proposed Project Alternative, 9,248 AFY for the High Density Alternative, 7,366 AFY for the Impact Minimization Alternative, and 8,118 AFY for the No Federal Action Alternative. A portion (1,505 acres) of the project site lies within the 2030 Study Area. SCWA has planned for 1,500 AFY of water supplies through the Zone 40 WSMP for these lands. These water supplies would be available when the Vineyard Water Treatment Plant (WTP) is constructed (estimated at 2011). The remaining demands under the Proposed Project Alternative (7,391 AFY), the High Density Alternative (7,748 AFY), the Impact Minimization Alternative (5,866 AFY), and the No Federal Action Alternative (6,618 AFY) would be met with remediated groundwater supplies made available through the RWSP.

Approximately 20,000 AFY of remediated water supplies are available to serve the project based on SCWA's agreement with Aerojet, Boeing, and MDC. Therefore, water supplies are available to meet the project's remaining water demands under all three action alternatives.

The project's water demands under normal and dry-year conditions were compared to available water supplies from 2010 through 2030 to determine whether a reliable water supply is available to serve the project and existing water demands during normal and dry years (Tables 3.5-5 and 3.5-6).

As shown in Tables 3.5-6 and 3.5-7, SCWA has adequate water supplies available to meet projected water demands under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, even in critically dry years. SCWA would meet dry-year demands by increasing groundwater pumping from the Central Groundwater Basin as outlined in the Zone 40 WSMP. Total groundwater pumping in the Central Groundwater Basin would not exceed the Water Forum Agreement recommended sustainable yield (i.e., 273,000 AFY) of the groundwater basin (SCWA 2005). Based on the estimated water demand for the project, available water supply, and the *Rio del Oro Specific Plan Project Amended Water Supply Assessment* (EDAW 2006), the project's water supply impacts would be **direct** and **less than significant**. **No indirect** impacts would occur. *[Similar]*

<b>Table 3.5-6</b>					
<b>Normal-Year Comparison of Water Supply and Demand (AFY)</b>					
Source	2010	2015	2020	2025	2030
<b>Supply</b>					
Zone 40 Surface Water	13,060	44,143	48,772	68,700	69,567
Zone 40 Groundwater	34,125	28,837	40,470	31,324	39,097
Zone 40 Recycled Water	4,400	4,400	4,400	4,400	4,400
Remediated Water for Rio del Oro	7,391	7,391	7,391	7,391	7,391
<b>Total Supplies</b>	<b>58,976</b>	<b>84,771</b>	<b>101,033</b>	<b>111,815</b>	<b>120,455</b>
<b>Demand</b>					
Zone 40 (Rio del Oro project not included)	50,085	75,880	92,142	102,924	111,564
Rio del Oro	8,891	8,891	8,891	8,891	8,891
<b>Total Demand</b>	<b>58,976</b>	<b>84,771</b>	<b>101,033</b>	<b>111,815</b>	<b>120,455</b>
Difference (Supply minus Demand)	0	0	0	0	0
Percent Increase in Water Demand from prior years		50	21	12	8
Note: AFY = acre-feet per year					
Source: EDAW 2006					

<b>Table 3.5-7</b>					
<b>Dry-Year Comparison of Water Supply and Demand (AFY)</b>					
Source	2010	2015	2020	2025	2030
<b>Supply</b>					
Zone 40 Surface Water	243	26,411	29,441	38,606	34,683
Zone 40 Groundwater	44,362	42,700	55,120	56,197	68,327
Zone 40 Recycled Water	4,400	4,400	4,400	4,400	4,400
Remediated Water for Rio del Oro	7,391	7,391	7,391	7,391	7,391
<b>Total Supply</b>	<b>56,396</b>	<b>80,902</b>	<b>96,352</b>	<b>106,594</b>	<b>114,801</b>
<b>Demand</b>					
Zone 40 (Rio del Oro project not included)	47,505	72,011	87,461	97,703	105,910
Rio del Oro	8,891	8,891	8,891	8,891	8,891
<b>Total Demand</b>	<b>56,396</b>	<b>80,902</b>	<b>96,352</b>	<b>106,594</b>	<b>114,801</b>
Difference (Supply minus Demand)	0	0	0	0	0
Percent Increase in Water Demand from prior years		50	21	12	8
Notes: AFY = acre-feet per year. In dry years, potable drinking water demand is reduced (SCWA 2005).					
Source: EDAW 2006					

As stated in Chapter 2, “Alternatives,” the City recently passed a resolution stating that new development should install a “purple pipe” recycled-water distribution system. Therefore, while it may not occur for many years, it is proposed that the project implement a recycled-water-use program that would require all major irrigated landscaping and open space areas within the project site to install a purple-pipe irrigation system that could be easily converted from potable to reclaimed water supply at some future date. As stated in Chapter 2, because the DEIR/DEIS already addresses the impacts of installing these kinds of pipelines within the project area, the City and USACE believe that, once enough details of the proposed system are available to ascertain its environmental impacts, any **direct** and **indirect** impacts solely attributable to the purple-pipe system would likely be **less than significant**.

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, permanent water supplies and associated infrastructure would not be required; thus, **no direct** or **indirect** impacts would occur. [*Lesser*]

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.5-3**

**Need for Permanent Water Facilities and Infrastructure.** *Project implementation would result in increased demand for water supply. Permanent water facilities would be required to provide water to support project development.*

PP, HD, IM,  
NF

The EIR for the *Zone 40 Water Supply Master Plan* prepared by SCWA (2003, 2004) (Zone 40 EIR) evaluated the environmental impacts of constructing a proposed 42-inch transmission main along Douglas Road and a 1.5-million-gallon water tank north of White Rock Road, both of which would serve the Rio del Oro project. The EIR was certified and the master plan was approved. Because these facilities would need to be constructed to serve the project and other development in the region, the environmental impacts of these facilities are associated with development of the project. However, these impacts would also occur without development of the project because the 42-inch transmission main and the water tank are required to serve regional development, and would be needed whether or not the project is developed.

Because there is a relationship between the project and the need for these water facilities, approval of the project may hasten the occurrence of the related impacts. As described in the Zone 40 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. Impacts that would remain significant or potentially significant after mitigation implementation (i.e., significant and unavoidable) include:

- ▶ direct visual impacts associated with operation of new facilities;
- ▶ potential short-term air quality impacts 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 Zone 40 WSMP 2030 Study Area.

Therefore, the Rio del Oro project would contribute to **indirect** and **direct significant** impacts associated with the future construction of water supply facilities that would be needed to serve the project and other regional development. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, permanent water supplies and associated infrastructure would not be required; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No further mitigation measures are required.

Regarding expansion of Zone 40 water supply facilities and infrastructure, implementation of mitigation measures to reduce impacts is the responsibility of Zone 40. Such measures would be implemented in accordance with the certified Zone 40 EIR prepared by SCWA. As described above, impacts on five issue areas would remain **significant and unavoidable** after mitigation implementation.

**IMPACT  
3.5-4**

**Increased Demand for Interim Wastewater Conveyance Facilities.** *Project implementation would result in increased generation of wastewater. Because permanent interceptor facilities would not be available until 2024, interim interceptor facilities would be required to convey wastewater flows for implementation of development phases or projects before 2024.*

PP, HD, IM Project implementation would result in increased generation of wastewater. The project site is almost entirely within CSD-1's AJ Douglas White Rock Trunk Shed sewer system, serving flows between 1 and 10 mgd. The northwest corner of the project site is part of the AJ Trunk Shed, which is planned to be lifted to the AJ Interceptor, Section 2. Discharge from the project site would ultimately flow into the AJ Interceptor, Section 2, then flow south and connect to the AJ Interceptor, Section 4, near the intersection of Sunrise Boulevard and Douglas Road. From this point, flows would be conveyed south to the Laguna Creek Interceptor. Different segments of the AJ and Laguna Creek Interceptors are scheduled to be constructed beginning in 2006, with final completion after 2020. A sewer master plan was completed for the project, which includes designs for interim facilities (Wood Rodgers 2005).

Interim facilities for the portion of the project site within the AJ Douglas White Rock Trunk Shed would flow into the Bradshaw Interceptor. The Bradshaw Interceptor is currently scheduled to be completed in 2006/2007 up to the west side of the Folsom South Canal. Development before completion of the AJ and Laguna Creek Interceptors would require construction of on-site facilities to a common point near the intersection of Sunrise Boulevard and Douglas Road, where off-site facilities would then be required to convey flows to existing facilities. The force main would travel south along Sunrise Boulevard, west along Douglas Road, across the Folsom South Canal, then north along the Zinfandel Drive alignment to a connection with the Bradshaw Interceptor or west along White Rock Road to Kilgore Road. Off-site facilities required to connect with existing facilities would be constructed in existing, disturbed rights-of-way. Before construction of the force main across the Folsom South Canal, the contractor would prepare a storm water pollution prevention plan and implement standard best management practices for construction activities.

On June 11, 2003, CSD-1 completed a review of the available capacity within the Bradshaw Interceptor for interim projects, which showed that total interim flows into the Bradshaw Interceptor from all projects could not exceed 39 mgd in the year 2020. Up to 10 mgd of flows generated by the project would need to be served on an interim basis. According to CSD-1, there would be sufficient capacity for the project's interim flows (Wood Rodgers 2005). After completion of the AJ and Laguna Creek Interceptors, the project's interim flows would be transferred to these new interceptors from the Bradshaw Interceptor.

The northwest corner of the project site is part of the AJ Trunk Shed, which is planned to be lifted to the AJ Interceptor, Section 2. This area consists of 168 acres and would have an estimated peak wet-weather flow of approximately 0.87 mgd at buildout of Phase 1 (Wood Rodgers 2005).

Possible approaches to providing interim facilities to serve this area include:

- ▶ construction of interim gravity facilities to the existing Station S-070, minor upgrades to increase pump capacity, and use of existing downstream force mains and gravity lines to convey flow to the Folsom Interceptor;
- ▶ construction of interim gravity facilities to the existing Station S-070, a major upgrade of the lift station to serve the entire existing S-70 shed, and use of existing downstream force mains and gravity lines to convey flow to the Folsom Interceptor (FOI-6 project with increased capacity); and
- ▶ installation of a new lift station near the northwest corner of the project site and installation of a force main to the Bradshaw Interceptor (designed to be expandable up to 5.5 mgd, with a future outfall to the AJ Interceptor).

As part of the review process of the *Sewer Master Plan for Rio del Oro*, CSD-1 would identify a preferred alternative, which would be analyzed as part of detailed sewer master plans for interim wastewater conveyance facilities. It may also be determined by CSD-1 in the future that the interim facilities would become the permanent conveyance facilities for this area of the project site.

Because the infrastructure required for interim wastewater conveyance facilities necessary to serve the Rio del Oro project has not been constructed, nor have final design plans and specifications been submitted, this is considered a **direct** and **potentially significant** impact. **No indirect** impacts would occur. [*Similar*]

NF

Project implementation would result in increased generation of wastewater. The project site is almost entirely within CSD-1's AJ Douglas White Rock Trunk Shed sewer system, serving flows between 1 and 10 mgd. Because the project applicant(s) would not be obtaining a Section 404 Clean Water Act permit from USACE, they would not be able to install the necessary on-site wastewater infrastructure to serve proposed areas of urban development in the southern portion of the project site. However, it is possible that wastewater conveyance infrastructure could still be installed following the same alignment shown in Exhibits 2-11a and 2-11c and by using HDD techniques. Therefore, the sewer master plan prepared for the project (Wood Rodgers 2005) would be applicable to the No Federal Action Alternative. A sewer master plan was completed for the project, which includes designs for interim facilities (Wood Rodgers 2005).

Interim facilities for the portion of the project site within the AJ Douglas White Rock Trunk Shed would flow into the Bradshaw Interceptor. The Bradshaw Interceptor is currently scheduled to be completed in 2006/2007 up to the west side of the Folsom South Canal. Development before completion of the AJ and Laguna Creek Interceptors would require construction of on-site

facilities to a common point near the intersection of Sunrise Boulevard and Douglas Road, where off-site facilities would then be required to convey flows to existing facilities.

On June 11, 2003, CSD-1 completed a review of the available capacity within the Bradshaw Interceptor for interim projects, which showed that total interim flows into the Bradshaw Interceptor from all projects could not exceed 39 mgd in the year 2020. Up to 10 mgd of flows generated by the project would need to be served on an interim basis. According to CSD-1, there would be sufficient capacity for the project's interim flows (Wood Rodgers 2005). After completion of the AJ and Laguna Creek Interceptors, the project's interim flows would be transferred to these new interceptors from the Bradshaw Interceptor.

As part of the review process of the *Sewer Master Plan for Rio del Oro*, CSD-1 would identify a preferred alternative, which would be analyzed as part of detailed sewer master plans for interim wastewater conveyance facilities. It may also be determined by CSD-1 in the future that the interim facilities would become the permanent conveyance facilities for this area of the project site.

Installation of wastewater conveyance pipeline through the designated Natural Resource areas would require using HDD techniques to avoid features considered jurisdictional by the USACE in the southern portion of the project site. HDD techniques require large construction areas to accommodate pipes and additional construction equipment need for tunneling or boring. Operation and maintenance of the wastewater conveyance pipeline through the designated Natural Resources areas would be greater because of a lack of access to the pipeline. Therefore, impacts associated with the No Federal Action Alternative would be greater than those for the other project alternatives. In addition, the infrastructure required for interim wastewater conveyance facilities necessary to serve the Rio del Oro project has not been constructed, and final design plans and specifications have not been submitted. This is considered a **direct** and **potentially significant** impact. **No indirect** impacts would occur. [*Greater*]

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems. Because no development would occur under the No Project Alternative, construction of interim wastewater conveyance facilities would not be required; thus, **no direct** or **indirect** impacts would occur. [*Lesser*]

#### Mitigation Measure 3.5-4: Submit Proof of Adequate Wastewater and Implement On- and Off-Site Infrastructure Service System or Assure that Adequate Financing is Secured.

PP, HD, IM, NF Before the approval of building permits for all project phases, the project applicant(s) shall submit proof to the City that an adequate wastewater conveyance system either has been constructed or is assured through the use of bonds or other sureties to the City's satisfaction. Both on- and off-site wastewater conveyance infrastructure sufficient to provide adequate service to Rio del Oro subdivisions shall be in place before approval of the final map for all project phases, or their financing shall be assured to the satisfaction of the City.

Timing: Before approval of final maps and building permits for all project phases.

Enforcement: City of Rancho Cordova Building Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.5-4 would reduce potentially significant impacts related to the lack of an initial wastewater infrastructure service system under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.5-5**

**Increased Demand for Permanent Wastewater Conveyance Facilities.** *Project implementation would result in increased generation of wastewater. Permanent trunk and interceptor facilities would be required to convey wastewater flows to support project development.*

PP, HD, IM

The sewer master plan prepared for the project (Wood Rodgers 2005) addressed the viability of providing sewer service to the project site, identified on- and off-site facility needs and design, and evaluated designs for consistency with existing interceptor and trunk sewer master plans. The study presents the ultimate sewer conveyance facilities and shed areas for the project site as well as off-site contributing areas. However, detailed sewer master plans have not been completed. It is anticipated that additional work would be performed to define the interceptor, trunk, and major collectors; identify phased construction of facilities; and design tentative maps, including collector and lateral systems, to serve each lot. The following discussion provides an overview of the future facilities identified by the conceptual sewer study.

As noted above, the AJ and Laguna Creek Interceptors, as designated in the *SRCS D Interceptor System Master Plan 2000*, would be constructed by SRCS D and would serve the project site.

Project implementation would increase generation of wastewater. The ultimate system for the entire project site, with the exception of the northwest corner, would be gravity fed. An on-site interceptor and trunk system would be split between the northern and southern portions of the site, consistent with the CSD-1 Master Plan. A southeast lateral would be extended to provide public service to the adjacent Security Park (not part of the project), which is currently served by private septic systems. The conceptual plans (Exhibit 2-10a) show the locations of gravity sewer lines (primarily 8- to 12-inch diameter pipes buried within each street) and trunk facilities (Wood Rodgers 2005). Based on land uses, the project would generate 6.6 mgd of average dry-weather flow, and the peak wet-weather flow for the project is estimated to be 12.95 mgd (Crush, pers. comm., 2005).

Before approval of subdivision maps for all project phases, detailed sanitary-sewer master plans would be required. These sanitary-sewer master plans would be prepared by a qualified engineer retained by the project applicant(s); they would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases occurring before 2024, when the Laguna Creek Interceptor is available as a permanent facility. These sewer master plans would verify the design of both major and minor facilities described in the conceptual master plan and would comply with CSD-1 and SRCS D requirements for placement of sewers. The sewer master plans would determine identify exact locations, sizes, and depths of pipes; identify any required reservations, rights-of-way, and permanent or temporary easements; define major sewer sheds; establish a schematic backbone system; divide major sheds into subsheds to define the areas that would contribute flows to certain points on the collection system; and estimate sewage flows based on methodology described in County design criteria for subarea sewer-service plans.

The AJ and Laguna Creek Interceptors, as designated in the *SRCS D Interceptor System Master Plan 2000* (SRCS D 2003), would be constructed by SRCS D and would serve the project site. Discharge from the project site would ultimately flow into the AJ Interceptor, Section 2. The Aerojet Interceptor, Section 2, would run along the western side of the project site, then south along Sunrise Boulevard to a connection point with AJ Interceptor, Section 4, near the

intersection of Sunrise Boulevard and Douglas Road. From this point, flows would be conveyed south to the Laguna Creek Interceptor. Discharge from the entire project site would ultimately flow into the Laguna Creek Interceptor after its completion (2024).

The sewer master plan addressed the viability of providing sewer service to the project site. It identified on- and off-site facility needs and designs, and evaluated designs for consistency with existing interceptor and trunk sewer master plans. The project would develop the majority of the interceptor system that runs through the site (in particular the AJ Interceptor, Section 2). The SRSCD master plan identifies the combined right-of-way plus an additional temporary construction easement needed for the AJ Interceptor, Section 2, as 72 feet, based on a depth of 32 feet. Reservations for the interceptor, with varying widths of up to 200 feet, have been included in the land use plan for construction of future interceptors. CSD-1 has approved the preliminary designs presented in the conceptual sewer study and determined that capacity requirements of the project were addressed adequately (Atteberry, pers. comm., 2004).

As described above under “Affected Environment,” the County evaluated the environmental impacts of constructing trunk and interceptor sewers that would serve the project, as well as most of the Sacramento region, in the *CSD-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report* (County of Sacramento 2004a) and the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report* (County of Sacramento 2003). Both EIRs were certified and the master plans were approved. Because these facilities would be constructed to serve the project and other development in the region, the environmental impacts of these facilities are associated with development of the project. These impacts would also occur without development of the project; because the trunk and interceptor lines are required to serve regional development, they would be required whether or not the project is developed.

Because there is a relationship between the project and the need for these sewer lines, approval of the project may hasten the occurrence of the related impacts. Therefore, this DEIR/DEIS incorporates by reference the discussion of environmental impacts of the trunk and interceptor line impacts from the EIRs listed above.

As described in the EIRs, construction of the sewer lines would result in several significant environmental impacts, most of which would be reduced to a less-than-significant level through implementation of mitigation. Impacts that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable) include:

- ▶ temporary direct disruption of property access (interceptor construction);
- ▶ permanent direct loss of agricultural productivity (interceptor construction and operation) and potential indirect conversion of agricultural land by expansion of urban services through agricultural lands within the Urban Services Boundary (trunk sewers);
- ▶ short-term direct visual impacts associated with construction activities (trunk sewers);
- ▶ potential direct impacts on a variety of biological resources, including wetlands and riparian resources (interceptor); loss of trees and other sensitive habitats (interceptor and trunk sewers); and loss or disturbance of special-status plant and animal species, including valley elderberry longhorn beetle, freshwater invertebrates, tiger salamanders, western spadefoot toads, giant garter snakes, and Swainson’s hawk nests (interceptor);

- ▶ air quality emissions (direct) of oxides of nitrogen (NO<sub>x</sub>) during construction (trunk and interceptors);
- ▶ noise (direct) during construction (trunk and interceptors); and
- ▶ cultural resources (direct) (interceptor).

Because the project would contribute to the need for this infrastructure, the construction of which would have a significant impact on the environment, the project would result in **indirect, significant** impacts associated with the future construction of trunk sewers and interceptors. **No direct** impacts would occur. *[Similar]*

NF

Because the project applicant(s) would not be obtaining a Section 404 Department of the Army permit from USACE, they would not be able to install the necessary on-site wastewater infrastructure to serve proposed areas of urban development in the southern portion of the project site. However, it is possible that wastewater conveyance infrastructure could still be installed following the same alignment shown in Exhibits 2-10a and 2-10c and by using HDD techniques. Therefore, the sewer master plan prepared for the project (Wood Rodgers 2005) would be applicable to the No Federal Action Alternative. The sewer master plan addressed the viability of providing sewer service to the project site, identified on- and off-site facility needs and design, and evaluated designs for consistency with existing interceptor and trunk sewer master plans. The study presents the ultimate sewer conveyance facilities and shed areas for the project site as well as off-site contributing areas. However, detailed sewer master plans have not been completed or submitted. It is anticipated that additional work would be performed to define the interceptor, trunk, and major collectors; identify phased construction of facilities; and design tentative maps, including collector and lateral systems, to serve each lot. The following discussion provides an overview of the future facilities identified by the conceptual sewer study.

As noted above, the AJ and Laguna Creek Interceptors, as designated in the *SRCS D Interceptor System Master Plan 2000*, would be constructed by SRCS D and would serve the project site.

Project implementation would increase generation of wastewater. The ultimate system for the entire project site, with the exception of the northwest corner, would be gravity fed. An on-site interceptor and trunk system would be split between the northern and southern portions of the site, consistent with the CSD-1 Master Plan. A southeast lateral would be extended to provide public service to the adjacent Security Park (not part of the proposed Rio del Oro project), which is currently served by private septic systems. The conceptual plans (Exhibit 2-10a) show the locations of gravity sewer lines (primarily 8- to 12-inch diameter pipes buried within each street) and trunk facilities (Wood Rodgers 2005). Based on land uses, the project would generate 6.6 mgd of average dry-weather flow, and the peak wet-weather flow for the project is estimated to be 12.95 mgd (Crush, pers. comm., 2005).

Before approval of subdivision maps for all project phases, detailed sanitary-sewer master plans would be required. These sanitary-sewer master plans would be prepared by a qualified engineer retained by the project applicant(s); they would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases occurring before 2024, when the Laguna Creek Interceptor is available as a permanent facility. These sewer master plans would verify the design of both major and minor facilities described in the conceptual master plan and would comply with CSD-1 and SRCS D requirements for placement of sewers. The sewer master plans would determine identify exact locations, sizes, and depths of pipes; identify any required reservations, rights-of-way, and permanent or temporary easements; define major sewer sheds; establish a schematic backbone system; divide major sheds into

subsheds to define the areas that would contribute flows to certain points on the collection system; and estimate sewage flows based on methodology described in County design criteria for subarea sewer-service plans. The AJ and Laguna Creek Interceptors, as designated in the *SRCS D Interceptor System Master Plan 2000* (SRCS D 2003), would be constructed by SRCS D and would serve the project site. Discharge from the project site would ultimately flow into the AJ Interceptor, Section 2. The Aerojet Interceptor, Section 2, would run along the western side of the project site, then south along Sunrise Boulevard to a connection point with AJ Interceptor, Section 4, near the intersection of Sunrise Boulevard and Douglas Road. From this point, flows would be conveyed south to the Laguna Creek Interceptor. Discharge from the entire project site would ultimately flow into the Laguna Creek Interceptor after its completion (2024).

The sewer master plan addressed the viability of providing sewer service to the project site. It identified preliminary on- and off-site facility needs and designs, and evaluated preliminary designs for consistency with existing interceptor and trunk sewer master plans. The project would develop the majority of the interceptor system that runs through the site (in particular the AJ Interceptor, Section 2). The SRCS D master plan identifies the combined right-of-way plus an additional temporary construction easement needed for the AJ Interceptor, Section 2, as 72 feet, based on a depth of 32 feet. Reservations for the interceptor, with varying widths of up to 200 feet, have been included in the land use plan for construction of future interceptors. CS D-1 has approved the preliminary designs presented in the conceptual sewer study and determined that capacity requirements of the project were addressed adequately (Atteberry, pers. comm., 2004).

As described above under the “Affected Environment,” the County evaluated the environmental impacts of constructing trunk and interceptor sewers that would serve the project, as well as most of the Sacramento region, in the *CS D-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report* (County of Sacramento 2004a) and the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report* (County of Sacramento 2003). Both EIRs were certified and the master plans were approved. Because these facilities would be constructed to serve the Rio del Oro project and other development in the region, the environmental impacts of these facilities are associated with development of the project. These impacts would also occur without development of the project; because the trunk and interceptor lines are required to serve regional development, they would be required whether or not the project is developed.

Because there is a relationship between the project and the need for these sewer lines, approval of the project may hasten the occurrence of the related impacts. Therefore, this DEIR/DEIS incorporates by reference the discussion of environmental impacts of the trunk and interceptor line impacts from the EIRs listed above.

As described in the EIRs, construction of the sewer lines would result in several significant environmental impacts above, most of which would be reduced to a less-than-significant level through implementation of mitigation. However, impacts were identified that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable).

Installation of wastewater conveyance pipeline through the designated Natural Resource areas would require using HDD techniques to avoid features considered jurisdictional by the USACE in the southern portion of the project site. HDD techniques require large construction areas to accommodate pipes and additional construction equipment need for tunneling or boring. Operation and maintenance of the wastewater conveyance pipeline through the designated Natural Resources areas would be greater because of a lack of access to the pipeline. Therefore, impacts associated with the No Federal Action Alternative would be greater than those for the other

project alternatives. In addition, the project would contribute to **indirect significant** impacts associated with the future construction of trunk sewers and interceptors that would be needed to serve the project and other regional development. **No direct** impacts would occur. *[Greater]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, no wastewater would be generated and additional permanent wastewater conveyance facilities would not be required. There would be no relationship between the project and the regional sewerage facilities. **No direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No further mitigation measures are required.

Regarding expansion of SRCSD wastewater conveyance facilities, implementation of mitigation measures to reduce impacts is the responsibility of SRCSD. Such measures would be implemented in accordance with the certified *CSD-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report* (County of Sacramento 2004a) and the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report* (County of Sacramento 2003). As described above, indirect impacts on six issue areas would remain **significant and unavoidable** after mitigation implementation.

**IMPACT  
3.5-6**

**Increased Demand for Wastewater Treatment Plant Facilities.** *Project implementation would generate additional wastewater, increasing the demand for wastewater treatment facilities.*

PP, HD, IM,  
NF

Collected wastewater flows from the project site would ultimately be transported to the SRWTP for treatment and disposal. The SRWTP receives and treats an average of 165 mgd (as of 2005) and has a permitted dry-weather flow design capacity of 181 mgd. Project buildout would generate 6.6 mgd of average dry-weather flow and 12.95 mgd peak wet-weather flow.

Flows to the SRWTP would increase over time as the population in the SRCSD service area increases. According to the *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan Final Environmental Impact Report* (County of Sacramento 2004b), the permitted capacity (181 mgd) of the SRWTP is expected to be reached before 2010. The 2020 Master Plan, which was approved in 2004, provides for the expansion of the SRWTP to 218 mgd. This projected capacity is based on growth rates expected to be achieved in the county by 2020. This projected capacity includes buildout of the project. Note that this does not represent a buildout population total for SRCSD; rather, it represents the amount of growth expected within SRCSD based on projections. Thus, if new development is approved before 2020, it is assumed that it would not change the rate of growth in the district; rather, it would change the potential location within SRCSD where the growth would occur. Expansion is planned to be phased to provide for sufficient long-term capacity.

As described in the Master Plan EIR, construction and operation of the expanded SRWTP would result in several significant environmental impacts, most of which would be reduced to a less-than-significant level through implementation of mitigation (including impacts on water quality, hydrology, and fisheries). The only significant and unavoidable impact after mitigation implementation related to the treatment plant that was identified would be from short-term increases in NO<sub>x</sub> during construction of SRWTP facilities.

Because the SRWTP is planned to accommodate growth in the county by 2020, development on the project site that occurs by 2020 would be accommodated by planned SRWTP capacity. Over time, additional planning at the SRWTP would occur, and overall capacity would be assessed and additional capacity planned for and added. The SRWTP site has sufficient land area to accommodate a substantially higher flow than 218 mgd; however, future plans beyond the next 15 years are speculative.

There is expected to be sufficient SRWTP capacity to accommodate project flows through 2020. There would be no assurances that the SRWTP would have adequate capacity for new wastewater flows for project development occurring after 2020. Therefore, this **direct** impact would be **potentially significant**. However, the project would contribute to the need to expand the facility and therefore would contribute to the **indirect, significant** short-term impact related to air quality from expansion of the SRWTP. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, wastewater treatment services would not be required because no wastewater would be generated; thus, **no direct or indirect** impacts would occur. *[Lesser]*

#### Mitigation Measure 3.5-6: Demonstrate Adequate Wastewater Treatment Capacity.

PP, HD, IM, NF The project applicant(s) for all project phases shall demonstrate adequate capacity at the SRWTP for new wastewater flows generated by the project. This shall involve preparing a tentative map-level study and paying connection and capacity fees as identified by SRCSD and CSD-1. Approval of the final project map shall not be granted until the City verifies adequate SRWTP capacity.

Timing: Before the approval of building permits for all project phases.

Enforcement: City of Rancho Cordova Building and Safety and Public Works Departments.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.5-6 would ensure that sufficient wastewater treatment capacity would be available to all project phases, because capacity would be documented before approval of improvement plans. This mitigation measure would reduce significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives associated with the increased demand for wastewater treatment plant facilities to a **less-than-significant** level.

Regarding expansion of the SRWTP, implementation of mitigation measures to reduce air quality impacts is the responsibility of SRCSD. Such measures would be implemented in accordance with the certified SRWTP 2020 Master Plan Final EIR. Impacts on air quality would remain **significant and unavoidable** after mitigation implementation.

Increased Generation of Solid Waste. *Project implementation would increase solid-waste generation.*

PP

Based on the CIWMB's generation rates, the estimated total population for the Proposed Project Alternative at buildout would be 31,671; therefore, solid-waste generation from project residents would be approximately 11,401 tons per year. Commercial and industrial development at the project site would generate approximately 18,318 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for project development, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business waste-disposal rate of 1.0 ton per employee per year results in generation of 18,318 tons of waste annually by employees at the project site.

Combining residential and business solid-waste generation, total solid-waste generation for the Proposed Project Alternative would be approximately 29,720 tons per year. This rate would not be reached until full buildout of the Proposed Project Alternative. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the Proposed Project Alternative. Development of the Proposed Project Alternative would also comply with all federal, state, and local statutes and regulations related to solid-waste reduction and recycling. Therefore, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur.

HD

Based on the CIWMB's generation rates, the estimated total population for the High Density Alternative at buildout would be 42,282; therefore, solid-waste generation from project residents would be approximately 15,221 tons per year. Commercial and industrial development at the project site would generate approximately 18,318 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for project development, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business waste-disposal rate of 1.0 ton per employee per year results in generation of 18,318 tons of waste annually by employees at the project site.

Combining residential and business solid-waste generation, the total solid-waste generation for the High Density Alternative would be approximately 33,540 tons per year, which would be 3,820 tons per year more than would be generated under the Proposed Project Alternative. This rate would not be reached until full buildout of the High Density Alternative. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the High Density Alternative. Development of the High Density Alternative would also comply with all federal, state, and local statutes and regulations related to solid-waste reduction and recycling. Therefore, this impact

would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Greater]*

IM

Based on the CIWMB's generation rates, the estimated total population for the Impact Minimization Alternative at buildout would be 28,828; therefore, solid-waste generation from project residents would be approximately 10,378 tons per year. Commercial and industrial development at the project site would generate approximately 17,517 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for project development, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business waste-disposal rate of 1.0 ton per employee per year results in generation of 17,517 tons of waste annually by employees at the project site.

Combining residential and business solid-waste generation, the total solid-waste generation for the Impact Minimization Alternative would be approximately 27,895 tons per year, which would be 1,825 tons per year less than would be generated under the Proposed Project Alternative. This rate would not be reached until full buildout of the Impact Minimization Alternative. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the Impact Minimization Alternative. Development of the Impact Minimization Alternative would also comply with all federal, state, and local statutes and regulations related to solid-waste reduction and recycling. Therefore, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Lesser]*

NF

Based on the CIWMB's generation rates, the estimated total population for the No Federal Action Alternative at buildout would be 29,388; therefore, solid-waste generation from project residents would be approximately 10,286 tons per year. Commercial and industrial development at the project site would generate approximately 14,648 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for project development, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business waste-disposal rate of 1.0 ton per employee per year results in generation of 14,648 tons of waste annually by employees at the project site.

Combining residential and business solid-waste generation, the total solid-waste generation for the No Federal Action Alternative would be approximately 24,934 tons per year, which would be 4,786 tons per year less than would be generated under the Proposed Project Alternative. This rate would not be reached until full buildout of the No Federal Action Alternative. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the No Federal Action Alternative. Development of the No Federal Action Alternative would also comply with all federal, state, and local statutes and regulations related to

solid-waste reduction and recycling. Therefore, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Lesser]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, solid waste would not be generated and disposal services would not be required; thus, **no direct** or **indirect impacts** would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT**  
**3.5-8**

**Increased Demand for Electricity and Infrastructure.** *Project implementation would increase the demand for electricity and associated infrastructure and would include the extension of existing electrical lines.*

PP

SMUD currently generates approximately 1,197 MW of electricity per day and delivers it to an approximately 900-square-mile area within Sacramento County. Buildout of the Proposed Project Alternative would increase electrical demand in Rancho Cordova by approximately 76 megavolt amperes (Teays, pers. comm., 2004). The energy demands created by the Proposed Project Alternative are not considered substantial in relation to the total amount of energy supplied by SMUD in its service area, and SMUD has stated that it has adequate electrical supplies to support the project without adversely affecting service to current users (Teays, pers. comm., 2004).

SMUD would extend existing service lines on-site to provide service to new development. As discussed above in “Affected Environment,” electrical lines and one substation are present on-site. The new on-site electrical service lines would connect to these existing lines and would be sized to meet the demands of the project. Public-utility easements would be dedicated for all underground facilities. SMUD would extend existing lines and construct facilities to serve the project site concurrently with all future project development phases. All new electrical lines less than 69 kV would be routed underground within the rights-of-way of project site streets. Existing aboveground electrical lines would be placed underground during construction of new facilities. The project would use existing SMUD substation 69, and two additional substations would be constructed on the project site. The project applicant(s) are currently working with SMUD to develop detailed electrical-service design plans for the project site, with the ultimate configuration to be approved by SMUD. Draft plans for electrical facilities are shown in Exhibit 2-11. Future tentative subdivision maps and improvement plans would identify the locations of these utility easements.

The proposed electrical-utility improvements would be required to comply with all existing City and SMUD requirements, Building Energy Efficiency Standards (Title 24 of the California Code of Regulations), and applicable Uniform Building Code requirements. Because SMUD has indicated that it has available capacity to provide electrical service and associated infrastructure to the project site, and because the increase in demand for electricity and associated infrastructure would not be substantial in relation to the existing electricity consumption in SMUD’s service area, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur.

- HD Because approximately 4,000 additional residential dwelling units would be generated under the High Density Alternative, demand for electricity would be greater than under the Proposed Project Alternative. However, SMUD has the capacity to meet the additional electricity demands. The proposed electrical-utility improvements would be required to comply with all existing City and SMUD requirements, Building Energy Efficiency Standards (Title 24 of the California Code of Regulations), and applicable Uniform Building Code requirements. This impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Greater]*
- IM Because approximately 1,000 fewer residential dwelling units and approximately 30 fewer acres of commercial and industrial space would be developed under the Impact Minimization Alternative, demand for electricity would be less than under the Proposed Project Alternative. SMUD has the capacity to meet the electricity demands of this alternative. The proposed electrical-utility improvements would be required to comply with all existing City and SMUD requirements, Building Energy Efficiency Standards (Title 24 of the California Code of Regulations), and applicable Uniform Building Code requirements. This impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Lesser]*
- NF Because approximately 800 fewer residential dwelling units and approximately 90 fewer acres of commercial and industrial space would be developed under the No Federal Action Alternative, demand for electricity would be less than under the Proposed Project Alternative. SMUD has the capacity to meet the electricity demands of this alternative. The proposed electrical-utility improvements would be required to comply with all existing City and SMUD requirements, Building Energy Efficiency Standards (Title 24 of the California Code of Regulations), and applicable Uniform Building Code requirements. This impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Lesser]*
- NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems. Because no development would occur under the No Project Alternative, increased demand for electricity would not be generated; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.5-9**

**Increased Demand for Natural Gas and Infrastructure.** *Project implementation would increase the demand for natural gas and infrastructure and would include the extension of existing natural-gas pipelines.*

- PP Implementation of the Proposed Project Alternative would increase the demand for natural gas in Rancho Cordova. PG&E has indicated that it has adequate natural-gas supplies to support the project without adversely affecting service to current users. The energy demands created by the project are not considered substantial in relation to the total amount of energy supplied by PG&E in its northern and central California service area (estimated in 2000 to be 887 million cubic feet per day of natural gas) and available energy expected in the future.
- PG&E would extend existing pipelines on-site to provide service to new development. As discussed above in “Affected Environment,” existing conveyance lines currently run underground along White Rock Road. Project development would connect to extensions of these existing service lines, with the ultimate configuration to be approved by PG&E. Additional on-site service

lines would be sized to meet the demands of the project, and public-utility easements would be dedicated for all underground facilities. All natural-gas lines would be routed within the rights-of-way of project site streets. The project applicant(s) are currently working with PG&E to develop detailed natural-gas service design plans for the project site. Tentative subdivision maps and improvement plans would identify the location of these utility easements.

Because PG&E is able to provide natural gas and associated infrastructure to the project site, and because the increase in demand for natural gas would not be substantial in relation to existing natural-gas consumption in PG&E's service area, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur.

- HD Because approximately 4,000 additional residential dwelling units would be generated under the High Density Alternative, demand for natural gas would be greater than under the Proposed Project Alternative. However, PG&E has the capacity to meet the natural-gas demands of this alternative. The proposed natural-gas utility improvements would be required to comply with all existing City and PG&E requirements, as well as applicable Uniform Building Code requirements. The impact would be **direct** and **less than significant**. **No indirect** impacts would occur. *[Greater]*
- IM Because approximately 1,000 fewer residential dwelling units and approximately 30 fewer acres of commercial and industrial space would be developed under the Impact Minimization Alternative, demand for natural gas would be less than under the Proposed Project Alternative. PG&E has the capacity to meet the natural-gas demands of this alternative. The proposed natural-gas utility improvements would be required to comply with all existing City and PG&E requirements, as well as applicable Uniform Building Code requirements. The impact would be **direct** and **less than significant**. **No indirect** impacts would occur. *[Lesser]*
- NF Because approximately 800 fewer residential dwelling units and approximately 90 fewer acres of commercial and industrial space would be developed under the No Federal Action Alternative, demand for natural gas would be less than under the Proposed Project Alternative. PG&E has the capacity to meet the natural-gas demands of this alternative. The proposed natural-gas utility improvements would be required to comply with all existing City and PG&E requirements, as well as applicable Uniform Building Code requirements. The impact would be **direct** and **less than significant**. **No indirect** impacts would occur. *[Lesser]*
- NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, increased demand for natural gas would not be generated; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.5-10**

**Increased Demand for Communications Service and Infrastructure.** *Project implementation would increase the demand for communications service and infrastructure and would include the extension of communication lines.*

PP, HD, IM,  
NF

AT&T is able to provide telecommunications service and related infrastructure to the project site. As discussed above in “Affected Environment,” telecommunications infrastructure is currently located throughout the city and in the vicinity of the project site, and no off-site improvements would be necessary. AT&T would augment its existing facilities on-site to serve new development, extending lines and constructing facilities to serve the project site concurrently with all project development phases. All new infrastructure would be installed underground, and existing aboveground lines would be placed underground during construction of new facilities. New and existing infrastructure would generally be placed within the rights-of-way of project site streets. The project applicant(s) are currently working with AT&T to develop detailed telecommunications design plans for the project site. Because AT&T would be able to provide the necessary telecommunications services and infrastructure, this would be considered a **direct, less-than-significant** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, increased demand for communications services would not be generated; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

### **Project Level (Phase 1) Impacts and Mitigation Measures**

**IMPACT  
3.5-11**

**Increased Demand for Initial Water Supplies.** *Implementation of development Phase 1 would result in increased demand for water supply. Because permanent water supply facilities would not be available until 2010, initial transmission facilities would be required to convey water supply for implementation of development phases or projects before 2010.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-1 for further discussion of this impact.

Implementation of Mitigation Measure 3.5-1s would reduce potentially significant impacts related to initial water supplies and infrastructure under the Proposed Project, High Density, and Impact Minimization Alternatives to a **less-than-significant** level. Implementation of Mitigation Measure 3.5-1b would partially reduce impacts under the No Federal Action Alternative, but not to a less-than-significant level. Identification of alternative water supply pipeline alignments would fall under the jurisdiction of the County and SWCA; therefore, neither the City nor the project applicant(s) can guarantee approval of these alternative pipeline alignments. Additionally, it is possible that these alternative alignments would be inconsistent with SWCA’s water supply master plan and would be subject to separate CEQA compliance. For these reasons, this impact would remain **significant and unavoidable**. If the County, SWCA, and other potentially affected agencies cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT  
3.5-12**

**Increased Demand for Permanent Water Supplies.** *Implementation of development Phase 1 would increase demand on the existing water supply available to the City of Rancho Cordova.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-2 for further discussion of this impact.

**IMPACT  
3.5-13**

**Need for Permanent Water Facilities and Infrastructure.** *Implementation of development Phase 1 would result in increased demand for water supply. Permanent water facilities would be required to provide water to support the Phase 1 development area.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-3 for further discussion of this impact.

**IMPACT  
3.5-14**

**Increased Demand for Interim Wastewater Conveyance Facilities.** *Implementation of development Phase 1 would result in increased generation of wastewater. Because permanent interceptor facilities would not be available until 2024, interim interceptor facilities would be required to convey wastewater flows from the Phase 1 development area.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-4 for further discussion of this impact.

Implementation of Mitigation Measure 3.5-4 would reduce potentially significant impacts associated with the increased demand for interim wastewater conveyance facilities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.5-15**

**Increased Demand for Permanent Wastewater Conveyance Facilities.** *Implementation of development Phase 1 would result in the need for permanent wastewater conveyance facilities to convey wastewater flows after 2024, when the Laguna Creek Interceptor is complete.*

PP, HD, IM

Implementation of any of the three action alternatives would result in increased generation of wastewater. The sewer system for the entire project site, with the exception of the northwest corner, would be gravity fed. An on-site interceptor and trunk system would be split between the northern and southern areas, consistent with the CSD-1 Master Plan. The sewer master plan shows the locations of gravity sewer lines (primarily 8- to 12-inch diameter pipes buried within each street) and trunk facilities (Wood Rodgers 2005). Based on land uses, the project would generate 1.1 mgd of average dry-weather flow, and the peak wet-weather flow for Phase 1 of the project would be 4.54 mgd (Crush, pers. comm., 2005).

Before approval of subdivision maps for all project phases, detailed sanitary-sewer master plans would be required. These sanitary-sewer master plans would be prepared by a qualified engineer retained by the project applicant(s); they would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases, including development Phase 1 occurring before 2024, when the Laguna Creek Interceptor is available as a permanent facility. These sewer master plans would verify the design of both major and minor facilities described in the conceptual master plan and would comply with CSD-1 and SRCSD requirements for placement of sewers. The sewer master plans would determine identify exact locations, sizes, and depths of pipes; identify any required reservations, rights-of-way, and permanent or temporary easements; define major sewer sheds; establish a schematic backbone

system; divide major sheds into subsheds to define the areas that would contribute flows to certain points on the collection system; and estimate sewage flows based on methodology described in County design criteria for subarea sewer-service plans. The AJ and Laguna Creek Interceptors, as designated in the *SRCS D Interceptor System Master Plan 2000*, would be constructed by SRCSD and would serve the project site. Discharge from the project site would ultimately flow into the AJ Interceptor, Section 2. The AJ Interceptor, Section 2, would run along the western side of the project site, then south along Sunrise Boulevard to a connection point with the AJ Interceptor, Section 4, near the intersection of Sunrise Boulevard and Douglas Road. From this point, flows would be conveyed south to the Laguna Creek Interceptor. Discharge from the entire project site, including the Phase 1 development area, would ultimately flow into the Laguna Creek Interceptor after its completion (2024).

The sewer master plan addressed the viability of providing sewer service to the project site, including the Phase 1 development area; identified on- and off-site facility needs and designs; and evaluated designs for consistency with existing interceptor and trunk sewer master plans. The project would develop the majority of the interceptor system that runs through the site (in particular the AJ Interceptor, Section 2). The SRSCD master plan identifies the combined right-of-way plus an additional temporary construction easement needed for the AJ Interceptor, Section 2, as 72 feet, based on a depth of 32 feet. Reservations for the interceptor, with varying widths of up to 200 feet, have been included in the land use plan for construction of future interceptors. CSD-1 has approved these preliminary designs and determined that capacity requirements of the project were addressed adequately (Atteberry, pers. comm., 2004).

As described above in “Affected Environment,” the County evaluated the environmental impacts of constructing trunk and interceptor sewers that would serve the project, as well as most of the Sacramento region, in the *CSD-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report* (County of Sacramento 2004a) and the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report* (County of Sacramento 2003). Both EIRs were certified and the master plans were approved. Because these facilities would be constructed to serve the project and other development in the region, the environmental impacts of these facilities are associated with development of the project. These impacts would also occur without development of the project; because the trunk and interceptor lines are required to serve regional development, they would be required whether or not the project is developed.

Because there is a relationship between the project and the need for these sewer lines, approval of the project may hasten the occurrence of the related impacts. Therefore, this DEIR/DEIS incorporates by reference the discussion of environmental impacts of the trunk and interceptor line impacts from the EIRs listed above.

As described in the EIRs, construction of the sewer lines would result in several significant environmental impacts (refer to Impact 3.5-5 for a discussion of impacts), most of which would be reduced to a less-than-significant level through implementation of mitigation. However, impacts were identified that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable) (refer to Impact 3.5-5 for a discussion of impacts).

The project would contribute to **indirect significant and unavoidable** impacts associated with the future construction of trunk sewers and interceptors that would be needed to serve the project and other regional development. **No direct** impacts would occur. *[Similar]*

NF

Implementation of any of the No Federal Action Alternative would result in increased generation of wastewater. The sewer system for the entire project site, with the exception of the northwest corner, would be gravity fed. An on-site interceptor and trunk system would be split between the northern and southern areas, consistent with the CSD-1 Master Plan. The sewer master plan shows the locations of gravity sewer lines (primarily 8- to 12-inch diameter pipes buried within each street) and trunk facilities (Wood Rodgers 2005). Based on land uses, the project would generate 1.1 mgd of average dry-weather flow, and the peak wet-weather flow for Phase 1 of the project would be 4.54 mgd (Crush, pers. comm., 2005).

Before approval of subdivision maps for all project phases, detailed sanitary-sewer master plans would be required. These sanitary-sewer master plans would be prepared by a qualified engineer retained by the project applicant(s); they would be submitted to the City for review and approval concurrently with development of tentative subdivision maps for all project phases, including development Phase 1 occurring before 2024, when the Laguna Creek Interceptor is available as a permanent facility. These sewer master plans would verify the design of both major and minor facilities described in the conceptual master plan and would comply with CSD-1 and SRCS D requirements for placement of sewers. The sewer master plans would determine identify exact locations, sizes, and depths of pipes; identify any required reservations, rights-of-way, and permanent or temporary easements; define major sewer sheds; establish a schematic backbone system; divide major sheds into subsheds to define the areas that would contribute flows to certain points on the collection system; and estimate sewage flows based on methodology described in County design criteria for subarea sewer-service plans. The AJ and Laguna Creek Interceptors, as designated in the *SRCS D Interceptor System Master Plan 2000*, would be constructed by SRCS D and would serve the project site. Discharge from the project site would ultimately flow into the AJ Interceptor, Section 2. The AJ Interceptor, Section 2, would run along the western side of the project site, then south along Sunrise Boulevard to a connection point with the AJ Interceptor, Section 4, near the intersection of Sunrise Boulevard and Douglas Road. From this point, flows would be conveyed south to the Laguna Creek Interceptor. Discharge from the entire project site, including the Phase 1 development area, would ultimately flow into the Laguna Creek Interceptor after its completion (2024).

The Rio del Oro sewer master plan addressed the viability of providing sewer service to the project site, including the Phase 1 development area; identified on- and off-site facility needs and designs; and evaluated designs for consistency with existing interceptor and trunk sewer master plans. The project would develop the majority of the interceptor system that runs through the site (in particular the AJ Interceptor, Section 2). The SRCS D master plan identifies the combined right-of-way plus an additional temporary construction easement needed for the AJ Interceptor, Section 2, as 72 feet, based on a depth of 32 feet. Reservations for the interceptor, with varying widths of up to 200 feet, have been included in the land use plan for construction of future interceptors. CSD-1 has approved these preliminary designs and determined that capacity requirements of the project were addressed adequately (Atteberry, pers. comm., 2004).

As described above under the “Affected Environment,” the County evaluated the environmental impacts of constructing trunk and interceptor sewers that would serve the project, as well as most of the Sacramento region, in the *CSD-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report* (County of Sacramento 2004a) and the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report* (County of Sacramento 2003). Both EIRs were certified and the master plans were approved. Because these facilities would be constructed to serve the project and other development in the region, the environmental impacts of these facilities are associated with development of the project. These impacts would also occur without development of the project;

because the trunk and interceptor lines are required to serve regional development, they would be required whether or not the project is developed.

Because there is a relationship between the project and the need for these sewer lines, approval of the project may hasten the occurrence of the related impacts. Therefore, this DEIR/DEIS incorporates by reference the discussion of environmental impacts of the trunk and interceptor line impacts from the EIRs listed above.

As described in the EIRs, construction of the sewer lines would result in several significant environmental impacts (refer to Impact 3.5-5 for a discussion of impacts), most of which would be reduced to a less-than-significant level through implementation of mitigation. However, impacts were identified that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable) (refer to Impact 3.5-5 for a discussion of impacts).

Installation of wastewater conveyance pipeline through the Natural Resource areas would require using HDD techniques to avoid features considered jurisdictional by the USACE in the southern portion of the project site. HDD techniques require large construction areas to accommodate pipes and additional construction equipment need for tunneling or boring. Operation and maintenance of the wastewater conveyance pipeline through the Natural Resources areas would be greater because of a lack of access to the pipeline. Therefore, impacts associated with the No Federal Action Alternative would be greater than those for the other project alternatives. In addition, the project would contribute to **indirect significant** impacts associated with the future construction of trunk sewers and interceptors that would be needed to serve the project and other regional development. **No indirect** impacts would occur. *[Greater]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, construction of new permanent wastewater conveyance facilities would not be required and no wastewater would be generated. There would be no relationship between the project and the regional sewerage facilities. **No direct or indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No further mitigation measures are required.

Regarding expansion of SRCSD wastewater conveyance facilities, implementation of mitigation measures to reduce impacts is the responsibility of SRCSD. Such measures would be implemented in accordance with the certified *CSD-1 Sewerage Facilities Expansion Master Plan Final Environmental Impact Report* (County of Sacramento 2004a) and the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000, Final Program Environmental Impact Report* (County of Sacramento 2003). As described in the discussion of Impact 3.5-5, indirect impacts on six issue areas would remain **significant and unavoidable** after mitigation implementation.

IMPACT  
3.5-16

**Increased Demand for Wastewater Treatment Facilities.** *Implementation of development Phase 1 would generate additional wastewater, increasing the demand for wastewater treatment facilities.*

PP, HD, IM,  
NF

Wastewater flows collected from the Phase 1 development area would ultimately be transported to the SRWTP. The SRWTP treats an average of 165 mgd (as of 2005) and has a permitted dry-weather flow design capacity of 181 mgd. Phase 1 buildout would generate 1.1 mgd of average dry-weather flow and 4.54 mgd of peak wet-weather flow.

Flows to the SRWTP would increase over time as the population in the SRCSD service area increases. According to the *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan Final Environmental Impact Report* (County of Sacramento 2004b), the permitted capacity of the SRWTP is expected to be reached before 2010. The 2020 Master Plan, which was approved in 2004, provides for the expansion of the SRWTP to 218 mgd. This capacity is projected based on growth rates expected to be achieved in the county by 2020. Note that this does not represent a buildout population total for SRCSD; it represents the amount of growth expected within the district based on projections. Thus, if new development is approved before 2020, it is assumed that it would not change the rate of growth in the district; rather, it would change the potential location within SRCSD where the growth would occur. Expansion is planned to be phased to provide for sufficient long-term capacity.

As described in the EIR, the construction of expansions to and operation of the expanded SRWTP would result in several significant environmental impacts (refer to Impact 3.5-6 for impacts), most of which would be reduced to a less-than-significant level through implementation of mitigation. The only significant and unavoidable impact would be from short-term increases in NO<sub>x</sub> during construction of SRWTP facilities.

Because the SRWTP is planned to accommodate growth in the county by 2020, development on the project site that occurs by 2020 would be accommodated by planned SRWTP capacity. Over time, additional planning at SRWTP would occur, and overall capacity would be assessed and additional capacity planned for and added. The SRWTP site has sufficient land area to accommodate a substantially higher flow than 218 mgd; however, future plans beyond the next 15 years are speculative.

There is expected to be sufficient SRWTP capacity to accommodate project flows through 2020. There would be no assurances that adequate capacity at the SRWTP for new wastewater flows would be available for project development that occurs after 2020. Therefore, this **direct** impact would be **potentially significant**. However, the project would contribute to the need to expand the facility and contribute to the **indirect, significant** short-term impact related to air quality from expansion of the SRWTP. **No other indirect impacts would occur.** [*Similar*]

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, wastewater treatment facilities would not be required because no wastewater would be generated; thus, **no direct or indirect impacts would occur.** [*Lesser*]

Implementation of Mitigation Measure 3.5-6 would ensure that sufficient wastewater treatment capacity would be available to all project phases by requiring the project applicant(s) to document adequate capacity before approval of improvement plans for development Phase 1. This mitigation measure would reduce significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives associated with the increased demand for wastewater treatment plant facilities to a **less-than-significant** level.

Regarding expansion of the SRWTP, implementation of mitigation measures to reduce air quality impacts is the responsibility of SRCSD. Such measures would be implemented in accordance with the certified SRWTP 2020 Master Plan Final EIR. Additional mitigation for expansion of the SRWTP would not be feasible. Thus, the impact would remain **significant and unavoidable**.

**IMPACT  
3.5-17**

**Increased Generation of Solid Waste.** *Implementation of development Phase 1 would increase solid-waste generation.*

**PP**

Based on the CIWMB's generation rates, the estimated total population for the Proposed Project Alternative at buildout of Phase 1 would be 8,174; therefore, solid-waste generation from project residents would be approximately 2,943 tons per year. Commercial and industrial development at the project site would generate approximately 11,507 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for the Phase 1 development area, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business waste-disposal rate of 1.0 ton per employee per year results in generation of 11,507 tons of waste annually by employees in the Phase 1 development area.

Combining residential and business solid-waste generation, the total solid-waste generation for Phase 1 of the project would be approximately 14,450 tons per year. This rate would not be reached until full buildout of Phase 1. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the Phase 1 development area. Phase 1 development would also comply with all federal, state, and local statutes and regulations related to solid-waste reduction and recycling. Therefore, this impact would be considered **direct and less than significant**. **No indirect** impacts would occur.

**HD**

Based on the CIWMB's generation rates, the estimated total population for the High Density Alternative at buildout of Phase 1 would be 10,686; therefore, solid-waste generation from project residents would be approximately 3,912 tons per year. Commercial and industrial development at the project site would generate approximately 10,977 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for the Phase 1 development area, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business-waste disposal rate of 1.0 ton per employee per year results in generation of 10,977 tons of waste annually by employees in the Phase 1 development area.

Combining residential and business solid-waste generation, the total solid-waste generation for Phase 1 under the High Density Alternative would be approximately 14,889 tons per year, which would be 439 tons per year more than would be generated under the Proposed Project Alternative.

This rate would not be reached until full buildout of Phase 1. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the Phase 1 development area. Phase 1 development would also comply with all federal, state, and local statutes and regulations related to solid-waste reduction and recycling. Therefore, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Greater]*

IM

Based on the CIWMB's generation rates, the estimated total population for the Impact Minimization Alternative at buildout of Phase 1 would be 10,386; therefore, solid-waste generation from project residents would be approximately 3,739 tons per year. Commercial and industrial development at the project site would generate approximately 10,781 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for the Phase 1 development area, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business-waste disposal rate of 1.0 ton per employee per year results in generation of 10,781 tons of waste annually by employees in the Phase 1 development area.

Combining residential and business solid-waste generation, the total solid-waste generation for Phase 1 under the Impact Minimization Alternative would be approximately 14,520 tons per year, which would be 70 tons per year more than would be generated under the Proposed Project Alternative. This rate would not be reached until full buildout of Phase 1. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the Phase 1 development area. Phase 1 development would also comply with all federal, state, and local statutes and regulations related to solid-waste reduction and recycling. Therefore, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Similar]*

NF

Based on the CIWMB's generation rates, the estimated total population for the No Federal Action Alternative at buildout of Phase 1 would be 7,414; therefore, solid-waste generation from project residents would be approximately 2,669 tons per year. Commercial and industrial development at the project site would generate approximately 8,762 new employees. The majority of employees at the project site are likely to be working in jobs within waste categories such as finance/insurance/real estate/legal (0.3 ton of waste per employee per year), other professional services (1.2 tons of waste per employee per year), communications (1.5 tons of waste per employee per year), and business services (1.7 tons of waste per employee per year). To estimate a single business waste-disposal rate for the Phase 1 development area, the two anticipated extremes among the categories (0.3 ton and 1.7 tons per employee per year) were averaged, resulting in a generation rate of 1.0 ton per employee per year. Using the average business-waste disposal rate of 1.0 ton per employee per year results in generation of 8,762 tons of waste annually by employees in the Phase 1 development area.

Combining residential and business solid-waste generation, the total solid-waste generation for Phase 1 under No Federal Action Alternative would be approximately 11,431 tons per year, which would be 76 tons per year more than would be generated under the Proposed Project

Alternative. This rate would not be reached until full buildout of Phase 1. Much lower generation rates would occur at project initiation, with gradual increases in the rate as development progressed. The Kiefer Landfill has approximately 117 million cubic yards of available capacity, which is estimated to last for 40 years. This landfill has sufficient permitted capacity to accommodate solid-waste disposal needs for the Phase 1 development area. Phase 1 development would also comply with all federal, state, and local statutes and regulations related to solid-waste reduction and recycling. Therefore, this impact would be considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, solid waste would not be generated and disposal services would not be required; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

IMPACT  
3.5-18

**Increased Demand for Electricity and Infrastructure.** *Implementation of development Phase 1 would increase the demand for electricity and associated electrical infrastructure and would include the extension of existing electrical lines.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-8 for further discussion of this impact.

IMPACT  
3.5-19

**Increased Demand for Natural Gas and Infrastructure.** *Implementation of development Phase 1 would increase the demand for natural gas and associated infrastructure and would include the extension of existing natural-gas pipelines.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-9 for further discussion of this impact.

IMPACT  
3.5-20

**Increased Demand for Communications Service and Infrastructure.** *Implementation of development Phase 1 would increase the demand for communications service and infrastructure and would include the extension of existing communication lines.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-10 for further discussion of this impact.

## CUMULATIVE IMPACTS

Future development in Rancho Cordova and Sacramento County would increase demand for utilities in the city and the region. In particular, the cumulative development scenario would increase demand for water supply and infrastructure, increase wastewater flow, require additional conveyance facilities and treatment, increase solid-waste generation, and increase demand for electricity and natural gas. For this cumulative analysis, the public

utilities provided to the project site by CSD-1, SRCSD, the Kiefer Landfill, SMUD, and PG&E are compared to past, present, and future planned growth in these service providers' districts.

## **Water**

### ***Initial Water Supply and Conveyance Facilities***

Water supply infrastructure that would deliver water to the project site is not currently in place and is not anticipated to be constructed until 2010, when the proposed Eastern County Replacement Water Supply Project is anticipated to be constructed. GSWC has indicated that it would provide water to serve the initial development phase of the project (i.e., development Phase 1). This water supply would serve approximately 600 single-family residential dwelling units on approximately 120 acres. The estimated volume of water that would be provided by GSWC would be approximately 350 AFY. On- and off-site water conveyance facilities (e.g., pipelines and pump stations) would need to be constructed to deliver water from GSWC's facilities to the Rio del Oro project site based on approved designs for initial water conveyance facilities. The water supply and conveyance facilities would be short term and would be used until the Eastern County Replacement Water Supply Project is completed. These initial facilities would be constructed to serve only the project. GSWC would have sufficient water supplies to meet the temporary demands of the project. Therefore, the project would not result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

### ***Permanent Water Supply***

The project would be served by SCWA Zone 40 through its conjunctive-use water supply system. As discussed in Impact 3.5-2 above, as required by SB 610, a water supply assessment has been prepared and adopted by the SWCA Board of Directors for the project (Appendix D of this DEIR/DEIS). The water supply assessment evaluates the adequacy of existing and future water supplies to meet the water demand created by the project in conjunction with existing development in Rancho Cordova and future related reasonably foreseeable projects. As shown in Table 3.5-2 of this DEIR/DEIS, the total water demand for the project is estimated to be 8,891 AFY. As shown in Table 3.5-3, SCWA has adequate supplies available to meet projected demands with the project, even in critically dry years.

The water demands associated with the project and the remainder of Zone 40's service area were included and addressed in the comprehensive water supply and infrastructure planning for Zone 40 and the development of the Zone 40 "conjunctive use" program as described in the Zone 40 WSMP. As previously indicated, the Water Forum Agreement established a long-term average annual limit (sustainable yield) for each of three geographic subareas of the groundwater basin within the county: 131,000 AFY for the North Area (north of the American River); 273,000 AFY for the Central Area (between the American and Cosumnes Rivers); and 115,000 AFY for the Galt Area (south of the Cosumnes River). Any proposed water supply project must satisfy the groundwater conditions specified in the Water Forum Agreement for the 2030 projected levels of development. The Zone 40 WSMP identifies an estimated long-term average use of surface water supply of 68,637 AFY through 2030. The long-term supply will consist of 45,000 AFY of U.S. Bureau of Reclamation Central Valley Project (CVP) contract water (known as "Fazio" and "SMUD" water), plus additional water supplies from various surface water sources, including up to 9,300 AFY from the City of Sacramento's existing entitlement areas where the Zone 40 boundaries lie within the City of Rancho Cordova's American River Place of Use. SCWA has determined that it has sufficient water supplies to meet the demands of Zone 40 through its conjunctive use program, which is a sustainable water supply program providing 100% reliable water supplies through 2030.

SCWA is a signatory to the Water Forum Agreement; thus, its cumulative water supplies are subject to the provisions of that agreement. In January 1999, the joint Sacramento City-County Office of Metropolitan Water Planning published the DEIR for the Water Forum Agreement. The Final EIR (FEIR) for the Water Forum Agreement was certified on November 23, 1999, and has not been challenged. The certified FEIR constitutes a

legally satisfactory analysis of all the issues addressed therein, including cumulative water supply impacts (see Public Resources Code Section 21167.2). The findings of the FEIR and the accompanying Water Forum Action Plan outlined a program whereby water delivery could be supplied to Water Forum Agreement stakeholders through 2030, provided that the permanent pumping diversion facilities on the Sacramento River and at Auburn are constructed. Potential impacts on water supplies resulting from implementation of the Water Forum Agreement were identified and evaluated relative to the base condition (i.e., current levels of demand). Impacts focused on changes to annual water deliveries to contractors with the CVP and State Water Project (SWP).

American River deliveries would be increased by the Water Forum Agreement. In this instance, American River deliveries include all deliveries to purveyors receiving water from the American River and water delivered from the Sacramento River in lieu of the American River. Table 3.5-8 shows the projected American River surface-water deliveries.

<b>Table 3.5-8 American River Deliveries</b>		
<b>Contract Year (March–February)</b>	<b>Base Conditions (TAF<sup>1</sup>)</b>	<b>1998 with Water Forum Agreement (TAF<sup>1</sup>)</b>
Maximum	230.8	469.9
Minimum	222.4	350.2
69-Year Average	229.1	462.7
<sup>1</sup> TAF = thousand acre-feet Source: Sacramento City-County Office of Metropolitan Water Planning 1999		

The American River deliveries include a component of water that is delivered to CVP customers. Table 3.5-9 shows the American River deliveries to CVP customers.

<b>Table 3.5-9 American River Deliveries to CVP Customers</b>		
<b>Contract Year (March–February)</b>	<b>Base Conditions (TAF<sup>1</sup>)</b>	<b>1998 with Water Forum Agreement (TAF<sup>1</sup>)</b>
Maximum	16.2	178.0
Minimum	8.1	59.7
69-Year Average	14.5	145.4
<sup>1</sup> TAF = thousand acre-feet Source: Sacramento City-County Office of Metropolitan Water Planning 1999		

As indicated in Table 3.5-8 and Table 3.5-9, the water deliveries made under the Water Forum Agreement could increase substantially if all agreements are negotiated as planned, all of the water districts seeking diversions obtain all of the necessary federal and state approvals, and all of the necessary facilities are constructed. Notably, the water demand created by the project, which is estimated to be approximately 8,891 AFY, would represent less than 1% of the total Water Forum Agreement delivery agreements, and thus would cause only a very small fraction of the cumulative impacts assessed in the Water Forum Agreement EIR.

As described in that EIR, implementation of the Water Forum Agreement would result in several significant environmental impacts, most of which would be reduced to a less-than-significant level through implementation of mitigation. These include impacts on groundwater, water quality, fisheries resources and aquatic habitat, flood control, hydropower supply, vegetation and wildlife, recreation, land use and growth inducement, aesthetics, cultural resources, and soils and geology.

Impacts that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable) include:

- ▶ impacts on water quality in the Sacramento River and the Sacramento–San Joaquin Delta;
- ▶ impacts on Folsom Reservoir’s warmwater fisheries;
- ▶ impacts on fall-run Chinook salmon, and flow and temperature impacts on splittail (February–May);
- ▶ a decrease in deliveries to SWP customers;
- ▶ a decrease in deliveries to CVP customers;
- ▶ reduced rafting and boating opportunities on the lower American River;
- ▶ reduced Folsom Reservoir boating opportunities;
- ▶ reduced availability of Folsom Reservoir swimming beaches;
- ▶ land use and growth-inducing impacts in the water service study area; and
- ▶ effects of varying water levels on cultural resources in Folsom Reservoir.

The mitigation measures applied to these resource areas would partially reduce the impacts, but would not reduce them to a less-than-significant level. The Water Forum Agreement EIR determined that even after mitigation is applied to these resource areas, the level of significance after mitigation would remain significant and unavoidable. Therefore, the Rio del Oro project and related projects would contribute to the indirect and direct significant impacts associated with future water supplies that would be needed to serve the project and other regional development. Therefore, cumulative impacts associated with increased demand for water supply would result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

### ***Permanent Water Conveyance Facilities***

SCWA recently prepared and adopted its Zone 40 WSMP (SCWA 2005), which describes the facilities and the construction financing mechanism needed to implement a phased water supply program to meet the region’s water needs into the foreseeable future, specifically the year 2030. The goal of the master plan is to define 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; and groundwater extraction, treatment, and distribution facilities. These facilities would be used for the production, conservation, transmission, and distribution of wholesale and retail water supplies in the year 2030.

A proposed water transmission main along Douglas Road and water tank north of White Rock Road, as identified in the *Zone 40 Water Supply Infrastructure Plan for the Sunrise Corridor/Mather/Sunrise Douglas Service Area* (MWH 2004), would be required to serve the project site, and SCWA would construct these facilities. Because these facilities would be constructed to serve the project and other development in the region, the environmental impacts of these facilities are associated with development of the project. The 42-inch transmission main and the water tank are required to serve regional development and would also occur without development of the project; because these facilities are required to serve regional development, they would be required whether or not the project is developed. Because there is a relationship between the project and the need for these water facilities, approval of the project may hasten the occurrence of the related impacts. Impacts resulting from construction of these water facilities were addressed in the previously certified Zone 40 EIR (2004) prepared by SCWA. As discussed under Impact 3.5-3, construction of these water facilities would result in several significant environmental impacts, most of which would be reduced to a less-than-significant level through implementation of mitigation identified in the SCWA Zone 40 EIR. Impacts that would remain significant or potentially significant after implementation of mitigation include direct visual impacts, potential direct impacts on a variety of biological resources, potential loss of habitat from development of facilities that would otherwise be included in the proposed SSCHCP, air quality emissions of NO<sub>x</sub> during construction, noise during construction, and potential long-term stationary-source noise impacts.

Therefore, the Rio del Oro project and related projects would contribute to the indirect and direct significant impacts associated with the future construction of water facilities that would be needed to serve the project and other regional development. Cumulative impacts associated with increased demand for permanent water conveyance facilities would result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

## **Wastewater**

### ***Interim Wastewater Conveyance Facilities***

Project implementation would result in the need for additional wastewater conveyance facilities to be used on an interim basis. Use of interim facilities in the northwest corner of the project site could include using Station S-070 to convey flows to the Folsom Interceptor. The estimated flow for the northwest corner is 0.87 mgd, and the estimated buildout flow for the area served by Station S070 is 2.65 mgd. Station S-070 has an existing rated pumping capacity of 0.80 mgd, which is equal to the current peak flow of 0.80 mgd. The capacity of Station S-070 could be expanded to accommodate project flows if this facility is chosen to convey interim flows (see Impact 3.5-4).

CSD-1 has reviewed the available capacity within the Bradshaw Interceptor for interim projects. Based on current calculations, the Rio del Oro Specific Plan and Sunrise Douglas Community Plan areas could use about 25 mgd of the available interim capacity within the Bradshaw Interceptor. The degree to which this available interim capacity is used would be dependent on the development rate of all areas within the Sacramento County Urban Services Boundary. Based on information from CSD-1, the Anatolia development expects to use 5.75 mgd and the Sunrise Douglas 2 development expects to use 5.7 mgd. Analysis of the Bradshaw Interceptor showed that interim flows into the interceptor could not exceed 39 mgd in the year 2020. Up to 10 mgd of the project's wastewater generation would need to be served on an interim basis. According to CSD-1, there is sufficient capacity for the project's interim flow (Wood Rodgers 2003). Full buildout of the project is not expected to occur before the completion of the Laguna Creek Interceptor, at which time the project's interim flows would be transferred from the Bradshaw Interceptor. The project would not result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

### ***Permanent Wastewater Conveyance Facilities***

Approximately 10,305 off-site acres are upstream of the Rio del Oro project site and would contribute a peak wet-weather flow of 37.17 mgd. The northwest corner of the project site was included in the overall flows leaving the property at Sunrise Boulevard and Douglas Road, although an interim option is to connect this sewerage shed to the Folsom Interceptor. This area would include a peak wet-weather flow of 0.87 mgd. The accumulation of flows from the Rio del Oro project site and off-site contributing areas and flows that exit the site would total 48.93 mgd of peak wet-weather flow. The conceptual sewer study is consistent with the SRCSD master plan in the identification of the project area and combined flow point at Sunrise Boulevard and Douglas Road, and it is also consistent with the CSD-1 master plan as to the size and elevation of connection points to the upstream system. To accommodate cumulative flows, trunks and interceptors would be placed as necessary to serve the service areas defined in the SRCSD and CSD-1 master plans. As individual improvement plans are proposed, they must be able to demonstrate that a permanent sewer system either is available or would be available to adequately serve new project flows. (Wood Rodgers 2005.)

The AJ and Laguna Creek Interceptors, as designated in the *2000 SRCSD Interceptor System Master Plan*, would be constructed by SRCSD and would serve the project site. Because these facilities would be constructed to serve the project and other development in the region, the environmental impacts of these facilities are associated with development of the project. These impacts would also occur without development of the project; because the trunk and interceptor lines are required to serve regional development, they would be required whether or not the project is developed.

Because there is a relationship between the project and the need for these sewer lines, approval of the project may hasten the occurrence of the related impacts. Impacts resulting from construction of these off-site facilities were addressed in two previously certified EIRs: the *CSD-1 Sewerage Facilities Expansion Master Plan Environmental Impact Report* and the *SCRSD Interceptor Master Plan 2000 Program Environmental Impact Report*. As discussed under Impact 3.5-4, construction of the sewer lines would result in several significant environmental impacts associated with the construction of off-site sewer lines, most of which would be reduced to a less-than-significant level through implementation of mitigation identified in the *SCRSD Interceptor Master Plan 2000 Program Environmental Impact Report*. Impacts that would remain significant or potentially significant after implementation of mitigation include temporary direct disruption of property access, permanent direct loss of agricultural productivity and potential indirect conversion of agricultural land, short-term direct visual impacts, potential direct impacts on a variety of biological resources, air quality emissions of NO<sub>x</sub> during construction, noise during construction, and disturbance of cultural resources.

Therefore, the project and related projects would contribute to the indirect and direct significant impacts associated with the future capacity and construction of trunk sewers and interceptors that would be needed to serve the project and other regional development. Cumulative impacts associated with increased demand for permanent wastewater conveyance facilities would result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

### **Wastewater Treatment Facilities**

As described above, the project is estimated to generate a 6.6-mgd average dry-weather flow and 12.95-mgd peak wet-weather flow. The expansion analyzed in the SRWTP Master Plan EIR would provide 37 mgd of additional capacity to the plant's existing capacity of 181 mgd for a total capacity of 218 mgd. Project flows would constitute 16.5% and 35% of the expanded SRWTP capacity during average dry-weather flows and peak wet-weather flows, respectively. It can be argued that generating this level of flows to the expanded SRWTP could be considered a substantial contribution to a significant cumulative impact.

In addition, cumulative development, including related projects and projects in the regional planning area assessed in this cumulative analysis, would contribute to the need for expansion of the SRWTP. Because the need to expand the SRWTP is the result of cumulative development, this significant unavoidable SRWTP impact is also considered a significant and unavoidable cumulative impact. The construction of expansion to and operation of the expanded SRWTP, as described in the SRWTP 2020 Master Plan Final EIR, would result in several significant environmental impacts (including impacts on water quality, hydrology, and fisheries), most of which would be reduced to a less-than-significant level through implementation of mitigation. The only significant and unavoidable impact would be from short-term increases in NO<sub>x</sub> during construction of SRWTP facilities. The Rio del Oro project and related projects would contribute to the need to expand wastewater treatment capacity at the SRWTP facility; therefore, cumulative impacts associated with increased demand for wastewater treatment facilities would result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

Flow to the SRWTP would increase over time as development increases in the SRCSD service area. According to the SRWTP 2020 Master Plan, the permitted capacity (181 mgd) of the SRWTP is expected to be reached before 2010. The 2020 Master Plan provides for the expansion of the SRWTP to 218 mgd based on growth rates expected to be achieved in the county by 2020. This flow rate does not represent a buildout population total for SRCSD; rather, it represents the amount of growth expected within the district based on projections. Thus, if new development is approved before 2020, it is assumed that it would not change the rate of growth in the district; rather, it would change the potential location within SRCSD where the growth would occur. Expansion is planned to be phased to provide for sufficient long-term capacity for future related projects. Because the SRWTP is planned to accommodate growth in Sacramento County by 2020, development on the project site would be accommodated by planned SRWTP capacity. Over time, additional planning at SRWTP would occur, and overall capacity would be

assessed and additional capacity planned for and added. The SRWTP site has sufficient land area to accommodate a substantially higher flow than 218 mgd; however, future plans beyond the next 15 years are speculative.

### **Solid Waste**

Project impacts related to increased generation of solid waste would be considered less than significant. The Kiefer Landfill, which would receive project waste, has approximately 117 million tons of capacity remaining and is expected to remain open over the next 40 years. Because this landfill would have adequate capacity to serve the project and other development in its service area, the project would not have a significant cumulative impact on solid-waste disposal. The project would not result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

### **Electricity**

SMUD is the electrical service provider for Rancho Cordova. The energy demands that would be created by the project would not be considered substantial in relation to the total amount of energy supplied. Cumulative development would increase the amount of demand for electrical supply. SMUD has stated that it has adequate electricity supplies to support the project without affecting service to existing customers. SMUD also has long-term contracts with other generators to provide an additional 1,189 MW of electricity for distribution per day. Throughout the year, SMUD buys and sells energy and capacity on a short-term basis to meet load requirements and reduce costs. SMUD is currently in the process of permitting the first phase of the CPP, which is part of SMUD's long-range plan to meet the growing power needs of Sacramento County. The CPP is anticipated to be constructed in two phases (Phase 1 started in early 2004) and would provide SMUD with a total of 1,000 MW. Phase 1 of the CPP is scheduled to begin serving SMUD customers in 2006 (SMUD 2004, n.d.).

In addition, because future development would be required to comply with all existing City and SMUD requirements as well as applicable Building Code requirements, it is anticipated that electricity supplies would be available. Therefore, cumulative electricity impacts are expected to be less than significant. The project would not result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

### **Natural Gas**

PG&E is the natural gas supplier for Rancho Cordova. The energy demands that would be created by the project would not be considered substantial in relation to the total amount of energy supplied. Cumulative development would increase the amount of demand for natural-gas supply. PG&E has stated that it has adequate natural-gas supplies to support the project without affecting service to existing customers. The total amount of natural gas supplied by PG&E in its northern and central California service area was estimated to be 887 million cubic feet per day in 2000. Additional energy is expected to be available in the future. In addition, because future development would be required to comply with all existing City and PG&E requirements as well as applicable Building Code requirements, it is anticipated that natural-gas supplies would be available. Therefore, cumulative natural-gas impacts are expected to be less than significant. The project would not result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

## **3.5.4 RESIDUAL SIGNIFICANT IMPACTS**

With implementation of the mitigation measures listed above, project implementation would not result in any residual significant impacts related to interim water supply and conveyance facilities; permanent water supply; interim wastewater conveyance facilities; increased generation of solid waste; or increased demands for electricity, natural gas, and telecommunications systems. Cumulative impacts associated with construction of permanent water conveyance facilities, increased demand for permanent wastewater conveyance facilities, and expanded wastewater treatment capacity would be significant. Construction of permanent water conveyance

facilities would result in direct and indirect impacts as discussed above. Increased demand for permanent wastewater conveyance facilities and expanded wastewater treatment capacity would include discharge of treated effluent to the Sacramento River by the SRWTP, which could result in impacts on the river, and the Rio del Oro project would make a minute indirect contribution to such impacts. No feasible mitigation measures are available to reduce these impacts to less-than-significant levels. Therefore, project implementation would result in residual significant impacts related to permanent water conveyance facilities, permanent wastewater conveyance facilities, and expanded wastewater treatment capacity.

## 3.6 PUBLIC SERVICES

### 3.6.1 AFFECTED ENVIRONMENT

#### FIRE PROTECTION SERVICES

The Sacramento Metropolitan Fire District (SMFD) provides fire protection, fire suppression, inspection, plan checking, emergency transportation, and medical services, public education, advanced life support, and rescue services to the unincorporated portions of Sacramento County (County) and the City of Rancho Cordova (City). SMFD was formed in 2000 by consolidation of the American River Fire District and the Sacramento County Fire Protection District. The largest fire district in Sacramento County, SMFD currently operates 42 stations and provides service through 690 uniformed and support personnel to nearly 600,000 people in a 417-square-mile area. SMFD operates 39 engine companies, five truck companies, 12 medic transportation units, eight fire apparatus units, five crash/rescue units, and various watercraft response units. Many of SMFD's engines are paramedic staffed and all responding units provide coverage by emergency medical technicians (EMTs). SMFD has established a response time goal of 5 minutes or less (80% of the time) in the urbanized portions of Rancho Cordova. In 2003, SMFD responded to more than 56,000 alarms, providing a response time of 6 minutes or less greater than 90% of the time (Sacramento Metropolitan Fire District 2004).

To improve response times for fire districts within Sacramento County, the County Department of Emergency Medical Services developed a Joint Powers Authority (JPA) for a unified-dispatch system to respond to fire and emergency-related incidents. Under the JPA, the closest unit available is dispatched to an incident, and fire district boundaries are not considered when an incident occurs. The JPA, known as the Regional Fire and Rescue Training Authority, is made up of the California Office of Emergency Services–Fire and Rescue Branch, SMFD, and the Sacramento Fire Department (City of Rancho Cordova 2005).

In addition to emergency medical alarms and structural or wildland fire responses, SMFD's personnel are trained and equipped to deal with swift-water emergencies, confined-space incidents, technical rescues, hazardous-materials incidents, and crash fire rescue.

Rancho Cordova represents only a portion of the overall service area, which includes Orangevale, Citrus Heights, Fair Oaks, Arden Arcade, Rio Linda, and South Sacramento. SMFD's Fire Administration Office is located at 2101 Hurley Way in Sacramento. SMFD operates a total of seven fire stations that serve Rancho Cordova:

- ▶ Station 54—8900 Fredrick Avenue, Sacramento
- ▶ Station 61—10595 Folsom Boulevard, Rancho Cordova
- ▶ Station 62—3646 Bradshaw Road, Sacramento
- ▶ Station 63—12397 Folsom Boulevard, Rancho Cordova
- ▶ Station 64—9116 Vancouver Avenue, Sacramento
- ▶ Station 65—11201 Coloma Road, Rancho Cordova
- ▶ Station 66—3180 Kilgore Road, Rancho Cordova

The SMFD Master Plan provides policy guidance, objectives, and activities in an effort to improve emergency response to the district's citizens, use existing resources more efficiently, and improve district facilities. As part of the master plan, a Fire Station Replacement Program was recommended to actively address deficiencies in existing fire stations, including age and condition issues; noncompliance with building codes, such as the ability to respond to emergencies following an earthquake; and lack of apparatus rooms of sufficient size to store present-day emergency-response equipment. In addition, the program would improve emergency response to the district's citizens while using existing SMFD resources more efficiently.

The Fire Station Replacement Program proposed construction of eight new fire stations around Sacramento County. In Rancho Cordova, the existing Station 54 would be replaced by a new Station 54 at Vintage Park Drive and

Bradshaw Road, and the existing Station 64 would be replaced by a new Station 64 at Manlove Road and Casals Street in Glenbrook. The proposed new Station 68 in the Sunrise Boulevard/Douglas Road area of Rancho Cordova would have 16,000 square feet and space for 13 firefighters. Additional stations are planned for Arden Park, Fair Oaks, Orangevale, Rio Linda, and North Highlands. Seven of the eight stations are scheduled to be completed by the end of 2006 (Werkman 2003, Sacramento Metropolitan Fire District 2004). Because of construction delays, no timetable has been established for completion of Station 68.

The funding and expenditures for SMFD are facilitated through SMFD's Capital Improvement Program. Other sources include special tax/benefit assessments, bond issues, impact/development fees, and grants. New development is responsible for the full cost of additional facilities and equipment necessary as a result of that development. This revenue is typically generated through development fees established by an infrastructure financing plan.

Within Rancho Cordova, SMFD is funded through a variety of sources, including property tax revenue from the City's General Fund. The General Fund provides the majority of the funding for fire-related services. Additional funds are generated through fire impact fees (used exclusively for construction of new-growth stations and associated apparatus), ambulance transport fees, and service fees (mostly from fire prevention plan checking charges). (City of Rancho Cordova 2005.)

An important requirement for fire suppression is adequate fire flow, which is the amount of water, expressed in gallons per minute (gpm), available to control a given fire and the length of time that this flow is available. The total fire flow needed to extinguish a structural fire is based on a variety of factors, including building design, internal square footage, construction materials, dominant use, height, number of floors, and distance to adjacent buildings. Minimum requirements for available fire flow at a given building are dependent on standards set in the California Fire Code.

## **LAW ENFORCEMENT SERVICES**

The Rancho Cordova Police Department is contracted through the Sacramento County Sheriff's Department (SCSD) Patrol Services. The City has adopted an agreement with SCSD stating that all law enforcement for Rancho Cordova will be provided by the County. The contracted services include patrol, traffic enforcement, investigations, and administrative services. Patrol Services operates SCSD's towing and parking enforcement, community resources, and service centers, emergency operations, and specialized patrol units. SCSD has a paid staff of 2,332 persons, consisting of 1,789 officers and 543 nonsworn members. SCSD also has a reserve force of 168 officers and approximately 621 community volunteers. SCSD is funded through County tax revenues and special federal and local grants.

The police department is located at 10361 Rockingham Drive (at Mather Field Road), approximately 3.5 miles southwest of the project site. The City's goal is to provide one police officer for every 1,000 citizens and one support staff member for every three officers, similar to the standard that was adopted for SCSD. The police department maintains an average response time for Priority One calls for service of 5 minutes or less. A Priority One call is a violent crime against a person or an emergency requiring an immediate response to save a life. Daily assessments are conducted on a call-by-call basis, with the goal of improving the department's response times. SCSD and the City have agreed that funding for the Rancho Cordova Police Department will occur using revenues from the City's General Fund, which is the primary source of revenue for law enforcement services (City of Rancho Cordova 2005).

The California Highway Patrol (CHP) provides traffic regulation enforcement, emergency management, and vice assistance on state highways, all federal interstate highways, and other major roadways in unincorporated portions of the southern Sacramento County area. The nearest CHP office is the Sacramento Communications Center (214), located at 3165 Gold Valley Drive in Rancho Cordova. The Communications Center is staffed primarily by nonuniformed personnel but provides a wide range of administrative and patrol services, including responses to calls from call boxes, stolen-vehicle reports, and cellular 911 calls; unit dispatches; and monitoring of the statewide CHP General Information Hotline. The facility is shared with the California Department of Transportation (Caltrans) and

dispatches all patrols for Sacramento and Yolo Counties; approximately 75% of the patrols for El Dorado, Nevada, and Placer Counties; approximately 25% of the patrols for Sierra County; and approximately 10% of the patrols for Yuba County.

## PUBLIC SCHOOLS

The Folsom Cordova Unified School District (FCUSD) provides educational services to approximately 18,000 students in the cities of Folsom and Rancho Cordova. FCUSD schools currently include 19 elementary schools, four middle schools, and two high schools, plus continuing-education high schools and adult education. The teacher-student ratio is 1:19 for grades K–3 and 1:29 for grades 4–12. On a district level, FCUSD is operating at or near capacity for its elementary and high schools. The school district has experienced considerable growth in the past few years. Table 3.6-1 identifies the 2003–2004 school year enrollment for FCUSD in September 2003.

School Name	Grade	Current Enrollment	Student Capacity	% of Capacity	Remaining Capacity
Blanche Sprentz Elementary	K–5	353	383	92	30
Carl Sundahl Elementary	K–6	435	534	81	99
Cordova Gardens Elementary	K–6	421	464	91	43
Cordova Lane Elementary	K–5	586	598	98	12
Cordova Meadows Elementary	K–6	414	459	90	45
Cordova Villa Elementary/Reymouth	K–5	507	483	105	-24
Empire Oaks Elementary	K–5	409	598	68	189
Folsom Hills Elementary	K–6	580	689	84	109
Gold Ridge Elementary	K–5	544	598	91	54
Mather Heights Elementary	K–6	369	422	87	53
Natoma Station Elementary	K–6	593	672	88	79
Oak Chan Elementary	K–6	596	641	93	45
PJ Shields Elementary	K–6	381	453	84	72
Rancho Cordova Elementary	K–6	441	566	78	125
Riverview Elementary	K–6	257	351	73	94
Sandra J. Gallardo Elementary	K–6	591	618	96	27
Theodore Judah Elementary	K–6	348	547	64	199
White Rock Elementary	K–6	593	642	92	49
Williamson Elementary	K–6	406	428	95	22
Folsom Middle	6–8	1,059	1,194	89	135
Mills Middle	6–8	1,112	1,170	95	58
Mitchell Middle	6–8	734	851	86	117
Sutter Middle	6–8	1,027	1,378	75	351
Cordova High	9–12	2,108	2,148	98	40
Folsom High	9–12	2,537	2,268	112	-269
Folsom Lake High (Continuation)	10–12	109	158	69	49
Kinney High (Continuation)	9–12	238	225	106	-13
Kitty Hawk (Alternative)/Mather Youth Academy Community Day	6–12	117	225	52	108
Walnutwood High (Alternative)	1–12	176	158	111	-18

<sup>a</sup> Student enrollment in the district changes daily as more students enroll and others leave; therefore, Table 3.6-1 does not reflect exact current enrollment.

Sources: California Department of Education, Educational Demographics Unit 2004; FCUSD 2004

The exact capacity levels and enrollment figures can change frequently as more portable classrooms are added and additional students enroll in the district. As shown, many school facilities currently are approaching or exceeding capacity.

To accommodate growth and maintain teacher-student ratios, improvements and additions to existing schools and construction of new schools are under way. The district opened Sandra J. Gallardo Elementary School for K–6 students in August 2004 to accommodate rapid growth in the Folsom area. Major renovations are continuing on Blanche Sprentz Elementary School, Cordova Meadows Elementary School, Williamson Elementary School, Folsom Middle School, Mills Middle School, Cordova High School, and Folsom High School. In addition, FCUSD is planning to construct two new elementary schools and one new high school in Folsom by 2008, and two new elementary schools and one new high school in Rancho Cordova by 2012 (FCUSD 2003).

FCUSD prepared an updated school-facilities needs analysis in July 2005 for the Rancho Cordova School Facility Improvement District (SFID) area to provide updated enrollment, capacity, student generation rates, and expected buildout totals anticipated to be generated by new residential development within FCUSD and Rancho Cordova. A student-yield generation rate study was conducted as part of the school facilities analysis. The yield-rate study included a survey of new (built within the last 1–5 years) single-family and multifamily residential units. Subdivisions sampled for the yield rate survey in Rancho Cordova included the Villages of Zinfandel (Stone Creek), Independence at Mather, and other newer areas of Rancho Cordova. These areas have been built within the last 5 years and include a range of moderately priced to higher priced homes. No apartment complexes have been built within the last 5 years in the Rancho Cordova SFID; therefore, given the typically lower student generation rate with apartments, the study used a yield factor equivalent to half of the yield rate generated by single-family dwelling units. Table 3.6-2 shows yield rates for residences built within the last 5 years.

Grade level	Single-family Detached (students per dwelling unit)	Multifamily (students per dwelling unit)
K–5	0.299	0.150
6–8	0.104	0.052
9–12	0.107	0.054

Source: FCUSD 2005

The school district is funded by 50% state and 50% local sources. The district can receive local funding through developer impact fees, tax revenue from Mello-Roos districts, and General Obligation (GO) bonds. Developer impact fees are the major source of funding for the district. Based on its Facility Needs Assessment, FCUSD demonstrated the need to for levy Level II developer fees (described in Section 3.6.2, “Regulatory Framework”) in the Rancho Cordova SFID that are higher than the statutory fee. As of August 2005, Level II fees for residential development are \$4.57 per square foot and \$0.36 per square foot for commercial/industrial construction (FCUSD 2005). Developer fees may be used to finance new schools and equipment, and to reconstruct existing facilities to maintain adequate housing for all the district’s students. Mello-Roos districts are defined tax areas usually associated with new residential subdivisions, which are often used for additional school taxes.

In March 2002, Rancho Cordova voters passed Measure B, a \$49 million school-facilities GO bond providing funds for modernization of existing sites, construction of a new elementary school, replacement of aged portables, installation of technology infrastructure at all school sites in Rancho Cordova, and site acquisition for a second high school for the Rancho Cordova area. The current bonding capacity of the Rancho Cordova portion of the district is \$88,682,311 (FCUSD 2005), meaning that the district could seek additional GO bonds. This means that a portion of the district has an assumed debt equivalent to 43.7% of its bonding capacity.

Elementary school students living in Rancho Cordova attend any one of 10 schools, five of which are located within 3 miles west and northwest of the project site near the intersection of White Rock Road and Sunrise Boulevard:

- ▶ Rancho Cordova Elementary—2562 Chasella Way (2.3 miles northwest)
- ▶ Cordova Lane Elementary—2460 Cordova Lane (2.4 miles northwest)
- ▶ White Rock Road Elementary—10487 White Rock Road (2.6 miles west)
- ▶ Williamson Elementary—2275 Benita Way (2.9 miles northwest)
- ▶ PJ Shields Elementary—10434 Georgetown Drive (3.0 miles northwest)

Middle school students (grades 6–8) living in Rancho Cordova attend either Mills Middle School at 10439 Coloma Road (approximately 2.4 miles north of the project site) or Mitchell Middle School at 2100 Zinfandel Drive (approximately 2.8 miles northwest of the project site). High school students (grades 9–12) living in Rancho Cordova attend Cordova High School at 2239 Chase Drive, approximately 3.5 miles northwest of the project site (FCUSD 2003).

## 3.6.2 REGULATORY FRAMEWORK

### FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

There are no federal plans, policies, regulations, or laws related to public services that are applicable to the proposed project or alternatives under consideration.

### STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Other than those related to public schools, described below, there are no state plans, policies, regulations, or laws related to public services that are applicable to the proposed project or alternatives under consideration.

#### State School Funding

California Education Code Section 17620 authorizes school districts to levy a fee, charge, dedication, or other requirement against any development project for the construction or reconstruction of school facilities, provided that the district can show justification for levying of fees. California Government Code Section 65995 limits the fee to be collected to the statutory fee unless a school district conducts a Facility Needs Assessment (Government Code Section 65995.6) and meets certain conditions.

Senate Bill 50 (Chapter 407, Statutes of 1998) instituted a new school facility program by which school districts can apply for state construction and modernization funds. This legislation imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. It also provided the authority for school districts to levy fees at three different levels:

- ▶ **Level I fees** are the current statutory fees allowed under Education Code Section 17620. As mentioned above, this code section authorizes school districts to levy a fee against residential and commercial construction to fund school construction or reconstruction. These fees are adjusted every 2 years in accordance with the statewide cost index for Class B construction as determined by the State Allocation Board. As of January 2006, the maximum Level I fees are \$2.63 per square foot for residential construction and \$0.42 per square foot for commercial construction.
- ▶ **Level II developer fees** are outlined in Government Code Section 65995.5. This code section allows a school district to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multitrack year-round scheduling, having an assumed debt equal to 15–30% of the district’s bonding capacity (the percentage is based on revenue sources for repayment), having

at least 20% of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past 4 years that received at least 50% plus one of the votes cast. A Facility Needs Assessment must demonstrate that the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next 5 years.

- ▶ **Level III developer fees** are outlined in Government Code Section 655995.7. This code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction if state funding becomes unavailable. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives state funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

## California Department of Education

As discussed in detail in Section 3.1, "Land Use," the California Department of Education (CDE) School Facilities Planning Division (SFPD) has prepared a school site selection and approval guide that provides criteria for locating appropriate school sites in the state of California. School site and size recommendations were changed by CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the publication *School Site Analysis and Development*. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-grounds ratio.

Certain health and safety requirements for school site selection are governed by state regulations and SFPD policies relating to:

- ▶ proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- ▶ presence of toxic and hazardous substances;
- ▶ hazardous facilities and hazardous air emissions within one-quarter mile;
- ▶ proximity to high-pressure natural-gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- ▶ noise;
- ▶ results of geological studies or soil analyses;
- ▶ traffic and school bus safety; and
- ▶ safety issues related to joint-use facilities.

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

### Rancho Cordova General Plan

Goals and policies from the *Rancho Cordova General Plan* (City General Plan) relating to public services that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### 3.6.3 ENVIRONMENTAL CONSEQUENCES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, a public-services impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ create a need for the development of new service facilities (e.g., fire, police, schools), the construction of which could result in significant environmental impacts;
- ▶ create circumstances where existing services and facilities could not meet established performance standards (i.e., response times, provider-per-resident ratios); or
- ▶ substantially impede existing services.

#### ANALYSIS METHODOLOGY

Impacts on fire services, police services, and public schools that would result from project implementation were identified by comparing existing service capacity and facilities against future demand associated with project implementation. Evaluation of potential public-services impacts was based on a review of documents pertaining to the project site and vicinity, including the City General Plan, the Fire Station Replacement Program, and the FCUSD facility needs analysis. Additional background information on current services, staffing, and equipment was obtained through consultation with appropriate agencies such as SMFD, SCSD, CHP, and FCUSD.

#### IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

#### Program Level Impacts and Mitigation Measures

IMPACT 3.6-1
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**Temporary Obstruction of Roadways during Construction.** *Project implementation could obstruct roadways in the project vicinity during construction, potentially obstructing or slowing emergency vehicles attempting to access the area.*

PP, HD, IM,  
NF

Project implementation would include construction activities of varying levels over a 25- to 30-year period. Although a majority of project construction activities would occur on-site, nearby roadways such as Sunrise Boulevard, White Rock Road, and Douglas Road would be affected (see Section 3.14, “Traffic and Transportation”). Ongoing construction activities could result in temporary lane closures, increased truck traffic, and other roadway effects that could slow or stop emergency vehicles, temporarily increasing response times and impeding existing service. Potential obstruction of roadways during construction would be considered a **significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not obstruct roadways during mining operations.

Because no development would occur under the No Project Alternative, there would be no construction that could obstruct the passage of emergency vehicles on local roadways; thus, **no direct or indirect** impacts would occur. *[Lesser]*

**Mitigation Measure 3.6-1: Prepare and Implement Traffic Control Plans.**

PP, HD, IM, NF The project applicant(s) and/or project contractor(s) for all project phases shall prepare and implement traffic control plans for construction activities that may affect road rights-of-way. The traffic control plans must follow standards of the agency responsible for the affected roadway and must be signed by a professional engineer. Measures typically used in traffic control plans include advertising of planned lane closures, warning signage, a flagperson to direct traffic flows when needed, and methods to ensure continued access by emergency vehicles. During project construction, access to existing land uses shall be maintained at all times, with detours used as necessary during road closures. Traffic control plans shall be submitted to the City Public Works Department for review and approval before the approval of all project plans or permits for all project phases where implementation may cause impacts on traffic.

**Timing:** Before the approval of all relevant plans and/or permits and during construction for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.6-1 would ensure that roadways would not be obstructed during construction. This mitigation measure would reduce the significant impact associated with the temporary obstruction of roadways during construction under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.6-2**

**Increased Demand for Fire Protection Facilities, Systems, Equipment, and Services.** *Project development would result in increased demand for fire protection facilities and services, potentially resulting in the need for additional staff and equipment to maintain an adequate level of service.*

PP Project implementation would result in a need for additional fire protection facilities and personnel to serve the project at full buildout. During initial project development, the existing fire stations in Rancho Cordova, particularly Fire Station 66, would provide first-response service to the project site. This station is approximately 2 miles west of Sunrise Boulevard and White Rock Road and would have a response time of approximately 2–3 minutes.

The Fire Station Replacement Program includes a proposal to build a new Station 68 in the Sunrise Boulevard/Douglas Road area of Rancho Cordova south of the project site. This facility would have 16,000 square feet and space for 13 firefighters and would be available to provide fire services to the project site. However, because of construction delays, no timetable has been established for completion of this station. If Station 68 is not available for the project, fire service to the project site would continue to be provided by Station 66, and additional fire protection service would be provided by the Regional Fire and Rescue Training Authority, which would dispatch the closest unit to an incident without consideration of fire district boundaries.

The estimated population of the project under buildout of the Proposed Project Alternative is 31,671 persons. New development is responsible for the full cost of additional facilities and equipment necessary as a result of that development through revenue generated by homeowner

property taxes per the City's ordinance. This tax would be used to pay for the startup costs incurred to hire and train each of the new firefighters and purchase new equipment necessary to serve project development.

SMFD outlines fire prevention standards to be incorporated into new residential and commercial development. These standards include access arrangements, fire hydrant placement, fire flow availability, and requirements, and plan submittal requirements. Occupancy of structures would not be permitted until the project applicant(s) provide a Certificate of Release from SMFD verifying that all fire prevention items have been addressed to the satisfaction of SMFD. In addition, as required by the City General Plan, new commercial and industrial development, as well as multifamily residential development with five or more units, must incorporate on-site fire suppression systems into project designs. On-site equipment and facilities would be consistent with industry standards and approved by SMFD. Because SMFD outlines fire prevention standards to be incorporated into new residential and commercial development and these standards require approval by SMFD, impacts on fire protection facilities and services would be **direct** and **potentially significant**. **No indirect** impacts would occur.

**HD** The estimated population of the project under buildout of the High Density Alternative is 42,282 persons, approximately 10,000 more than under the Proposed Project Alternative. New development is responsible for the full cost of additional facilities and equipment necessary as a result of that development through revenue generated by homeowner property taxes per the City's ordinance. This tax would be used to pay for the startup costs incurred to hire and train each of the new firefighters and purchase new equipment necessary to serve project development. Because SMFD outlines fire prevention standards to be incorporated into new residential and commercial development and these standards require approval by SMFD, impacts on fire protection facilities and services would be **direct** and **potentially significant** and would be greater than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Greater]*

**IM** The estimated population of the project under buildout of the Impact Minimization Alternative is 28,828 persons, approximately 3,000 fewer than under the Proposed Project Alternative. New development is responsible for the full cost of additional facilities and equipment necessary as a result of that development through revenue generated by homeowner property taxes per the City's ordinance. This tax would be used to pay for the startup costs incurred to hire and train each of the new firefighters and purchase new equipment necessary to serve project development. Because SMFD outlines fire prevention standards to be incorporated into new residential and commercial development and these standards require approval by SMFD, impacts on fire protection facilities and services would be **direct** and **potentially significant**, but would occur to a lesser degree than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Lesser]*

**NF** The estimated population of the project under buildout of the No Federal Action Alternative is 29,388 persons, approximately 2,000 fewer than under the Proposed Project Alternative. New development is responsible for the full cost of additional facilities and equipment necessary as a result of that development through revenue generated by homeowner property taxes per the City's ordinance. This tax would be used to pay for the startup costs incurred to hire and train each of the new firefighters and purchase new equipment necessary to serve project development. SMFD outlines fire prevention standards to be incorporated into new residential and commercial development and these standards require approval by SMFD.

Single-family residential areas east of Sunrise Boulevard and north of Douglas Road in the southern portion of the project site would be mostly surrounded by natural resources areas.

Access into and out of each of these areas would be provided by one roadway. The SMFD requires residential areas to include two roadways for access by emergency response vehicles. Because these single-family residential areas would be inconsistent with SMFD Fire Prevention Standard 444.302, requirements for fire apparatus access roads, impacts on fire protection facilities and services would be **direct** and **significant** and would be greater than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Greater]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the need for additional fire protection services and facilities.

Because no development would occur under the No Project Alternative, there would be no need for additional fire protection services and facilities; thus, **no direct** or **indirect impacts** would occur. *[Lesser]*

**Mitigation Measure 3.6-2: Incorporate California Fire Code and SMFD Fire Prevention Standards into Project Design and Submit Project Design to SMFD for Review and Approval.**

PP, HD, IM, NF The project applicant(s) for all project phases shall incorporate into their project designs fire flow requirements based on the California Fire Code, SMFD Fire Prevention Standard 441.1051, and other applicable requirements based on SMFD fire prevention standards. Approved plans showing access design shall be provided to SMFD as described by Fire Prevention Standard 444.302 (“Fire Apparatus Access Roads”). These plans shall describe access-road length, dimensions, and finished surfaces for firefighting equipment.

Improvement plans showing hydrant locations shall be submitted to the SMFD Fire Prevention Bureau for review and approval. Fire hydrant details and SMFD notes shall be shown on the plans or improvement drawings as detailed in Fire Prevention Standard 441.1051. A letter from the Sacramento County Water Agency shall be obtained verifying that adequate water is available for fire flow.

In addition, as required by the City General Plan, new commercial and industrial development, as well as multifamily residential development with five or more units must incorporate on-site fire suppression systems into project designs.

If security gates are installed at the project site, the project applicant(s) shall obtain a copy of the County Fire Code, Amendment VII, “Emergency Access Gates and Barriers.” The design of the entry shall conform to this standard.

The City shall not authorize the occupancy of any structures until the project applicant(s) have obtained a Certificate of Release (Standard 441.105, “Certificate of Release—Residential”) from SMFD verifying that all fire prevention items have been addressed on-site to the satisfaction of SMFD.

**Timing:** Before approval of improvement plans and issuance of occupancy permits or final inspections for all project phases.

**Enforcement:** Sacramento Metropolitan Fire District and City of Rancho Cordova Building & Safety Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.6-2 would ensure that applicable California Fire Code and SMFD fire prevention standards are incorporated into the project design. This mitigation measure would reduce significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives associated with the increased demand for fire protection facilities, systems, equipment, and services to a **less-than-significant** level.

**IMPACT  
3.6-3**

**Increased Demand for Fire Flow.** *Project implementation would include the development of residential, commercial, school, and other uses that would require adequate available water flow for fire suppression. Lack of adequate fire flow would impede the ability of SMFD to provide effective fire suppression at the project site.*

PP, HD, IM,  
NF

SMFD maintains oversight authority to ensure that adequate water volume and pressure are available in the district’s service area. Methods to calculate minimum fire flow involve design-specific calculations, including the density of structures, height, number of stories, square footage, building materials, and structural design. Generally, fire flow requirements for the type of development associated with the project are 1,250 gpm for low-density residential, 2,500 gpm for commercial, and 3,500 gpm for industrial development (measured at 20 pounds per square inch [psi] with a minimum 2-hour duration). Fire flow requirements may be greater in areas where multiple-story commercial and office buildings could be constructed. Lack of adequate fire flow would impede the ability of SMFD to provide effective fire suppression service at the project site. Increased demands for fire flow would be considered a **significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not increase the demand for fire flow.

Because no development would occur under the No Project Alternative, there would not be an increased demand for fire flow; thus, **no direct or indirect** impacts would occur. *[Lesser]*

**Mitigation Measure: Implement Mitigation Measure 3.6-2.**

Implementation of Mitigation Measure 3.6-2 would ensure that adequate fire flow requirements would be incorporated into project designs. This mitigation measure would reduce significant impacts under the Proposed Project, High Density, Impact Minimization, No Federal Action Alternatives associated with increased demand for fire flow to a **less-than-significant** level.

**IMPACT  
3.6-4**

**Increased Demand for Police Protection Facilities, Services, and Equipment.** *Project development would increase the demand for police protection facilities and services, resulting in the need for additional staff and equipment to maintain an adequate level of service.*

PP

The Rancho Cordova Police Department, which is located approximately 3.5 miles from the project site, would provide first-response service for the project site. Under the Proposed Project Alternative, the estimated residential population at project buildout is 31,671 persons. Using the City’s ratio of one officer to 1,000 residents, a minimum of 32 new police officers would be needed to serve project development at buildout. Approximately 11 new administrative staff members would also be required to support these patrol officers.

To maintain adequate levels of service, additional officers, facilities, and equipment would be required to serve project development at buildout. City Ordinance No. 13-2003 levies a special tax on all taxable parcels in the project area. This tax would be included in new homeowners' property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to increased demands for police protection facilities, services, and equipment would be **direct** and **less than significant**. **No indirect** impacts would occur.

HD

Under the High Density Alternative, the estimated residential population at project buildout is 42,282 persons. Using the City's ratio of one officer to 1,000 residents, a minimum of 42 new police officers would be needed to accommodate project development at buildout. Approximately 14 new administrative staff members would also be required to support these patrol officers. This would be approximately 10 more new officers and three more new administrative staff members, respectively, than would be required under the Proposed Project Alternative.

To maintain adequate levels of service, additional officers, facilities, and equipment would be required to serve project development. City Ordinance No. 13-2003 levies a special tax on all taxable parcels in the project area. This tax would be included in new homeowners' property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to increased demands for police protection facilities, services, and equipment would be **direct** and **less than significant** and would occur to a greater degree than under the Proposed Project Alternative because 10 additional police officers and three additional administrative staff members would be required. **No indirect** impacts would occur. *[Greater]*

IM

Under the Impact Minimization Alternative, the estimated residential population at project buildout is 28,828 persons. Using the City's ratio of one officer to 1,000 residents, a minimum of 28 additional police officers would be needed to accommodate project development at buildout. Approximately nine administrative staff members would also be required to support these patrol officers. This would be approximately four fewer new officers and two fewer new administrative staff members, respectively, than would be required under the Proposed Project Alternative.

To maintain adequate levels of service, additional officers, facilities, and equipment would be required to serve project development. City Ordinance No. 13-2003 levies a special tax on all taxable parcels in the project area. This tax would be included in new homeowners' property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to increased demands for police protection facilities and services would be **direct** and **less than significant**, but would occur to a lesser degree than under the Proposed Project Alternative because fewer new police officers and administrative staff members would be required. **No indirect** impacts would occur. *[Lesser]*

NF

Under the No Federal Action Alternative, the estimated residential population at project buildout is 29,388 persons. Using the City's ratio of one officer to 1,000 residents, a minimum of 29 additional police officers would be needed to accommodate project development at buildout. Approximately 10 administrative staff members would also be required to support these patrol officers. This would be approximately three fewer new officers and one fewer new administrative staff members, respectively, than would be required under the Proposed Project Alternative.

To maintain adequate levels of service, additional officers, facilities, and equipment would be required to serve project development. City Ordinance No. 13-2003 levies a special tax on all

taxable parcels in the project area. This tax would be included in new homeowners' property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to increased demands for police protection facilities and services would be **direct** and **less than significant**, and would occur to a lesser degree than under the Proposed Project Alternative because fewer new police officers and administrative staff members would be required. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of additional protection services and facilities.

Because no development would occur under the No Project Alternative, there would be no requirement for additional police protection services and facilities; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.6-5**

**Increased Demand for Public Elementary School Facilities and Services.** *Project implementation would increase demand for elementary schools (grades K–5) to serve the project site.*

PP The County Community Development Department, City Planning Department, and individual developers were contacted for information regarding current and future improvement plans to calculate the projected residential development in Rancho Cordova. These projects have received or are in the process of receiving tentative map approval from the appropriate planning agencies. Approximately 2,480 single-family and 746 multifamily units (not including the proposed Rio del Oro project) are projected to be built in Rancho Cordova before the end of 2009. The Proposed Project Alternative and other projected residential development in Rancho Cordova would generate a total of approximately 3,976 new students (grades K–12) by 2009. The current enrollment for all schools in the city is approximately 8,800 students, and the current school capacity is 9,734 students. With an additional 3,976 students anticipated by 2009, school facilities would exceed capacity under current conditions (FCUSD 2005).

Based on student-yield generation rates shown in Table 3.6-2, implementation of the Proposed Project Alternative would generate approximately 3,213 new elementary school students (grades K–5) at project buildout.

Elementary schools in FCUSD have an average capacity of 600 students (Washburn, pers. comm., 2005). Using this average as the assured capacity of schools to be built on-site, the six proposed school sites at the project site would have a total capacity of 3,600 students. Thus, once constructed, the proposed elementary schools would accommodate all 3,213 students and would have capacity for an additional 387 students. To accommodate students at the project site, school attendance boundaries would be adjusted regularly to account for the phases of development and available capacity at completed schools at the project site (Washburn, pers. comm., 2005). Therefore, the available school sites would have sufficient capacity to meet the demands of elementary school students and would not result in a shortfall of school services or facilities.

As required by state law, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. As of August 2005, the developer is charged Level II fees of \$4.57 per square foot for residential development and \$0.36 per square foot for commercial development in the FCUSD boundaries. The City would determine the assessable square footage that would be subject to the fee at the time of development (FCUSD 2005). This fee is typically an insufficient amount to fund 100% of new school facility construction. Thus, other funding sources (see discussion in “Affected Environment”) would be needed to construct schools. However, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. (Government Code Section 65996.) With payment of the state-mandated school impact fees, and assuming that all six proposed elementary schools are constructed, implementation of the Proposed Project Alternative would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur.

**HD** Based on student-yield generation rates shown in Table 3.6-2, implementation of the High Density Alternative would generate approximately 4,243 new elementary school students (grades K–5). This would be approximately 1,030 more elementary school students than under the Proposed Project Alternative. Because the six proposed schools at the project site would have a total capacity of only 3,600 students, approximately 643 students would not be accommodated by the proposed facilities. To alleviate the shortfall, portable classrooms could be added to the proposed school sites, or the students could be bused to nearby schools, outside the project site, that have capacity for additional students (Washburn, pers. comm., 2005).

The project applicant(s) would pay the state-mandated school impact fees to FCUSD. This fee is typically an insufficient amount to fund 100% of new school facility construction and operation; however, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, implementation of the High Density Alternative would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur. [*Greater*]

**IM** Based on student-yield generation rates shown in Table 3.6-2, implementation of the Impact Minimization Alternative would generate approximately 2,640 new elementary school students (grades K–5). This would be approximately 573 fewer elementary school students than under the Proposed Project Alternative. Because the six proposed school sites at the project site would have a total capacity of 3,600 students, all 2,640 new students would be accommodated, and there would be capacity for an additional 960 students.

The project applicant(s) would pay the state-mandated school impact fees to FCUSD. This fee is typically an insufficient amount to fund 100% of new school facility construction and operation; however, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, implementation of the Impact Minimization Alternative would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur. [*Lesser*]

**NF** Based on student-yield generation rates shown in Table 3.6-2, implementation of the No Federal Action Alternative would generate approximately 2,965 new elementary school students (grades K–5). This would be approximately 248 fewer elementary school students than under the Proposed Project Alternative. Because the six proposed school sites at the project site would have a total capacity of 3,600 students, all 2,965 new students would be accommodated, and there would be capacity for an additional 635 students.

The project applicant(s) would pay the state-mandated school impact fees to FCUSD. This fee is typically an insufficient amount to fund 100% of new school facility construction and operation; however, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, implementation of the No Federal Action Alternatives would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new public-school facilities and services.

Because no development would occur under the No Project Alternative, there would be no increase in the demand for public school facilities and services; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT**  
3.6-6

**Increased Demand for Public Middle School and High School Facilities and Services.** *Project implementation would increase demand for middle schools (grades 6–8) and high schools (grades 9–12) to serve the project site.*

PP The County Community Development Department, City Planning Department, and individual developers were contacted for information regarding current and future improvement plans to calculate the projected residential development in Rancho Cordova. These projects have received or are in the process of receiving tentative map approval from the appropriate planning agencies. Approximately 2,480 single-family and 746 multifamily units (not including the proposed Rio del Oro project) are projected to be built in Rancho Cordova before the end of 2009. The Proposed Project Alternative and other projected residential development in Rancho Cordova would generate a total of approximately 3,976 new students (grades K–12) by 2009. The current enrollment for all schools in the city is approximately 8,800 students, and the current school capacity is 9,734 students. With an additional 3,976 students anticipated by 2009, school facilities would exceed capacity under current conditions (FCUSD 2005).

Based on student-yield generation rates shown in Table 3.6-2, implementation of the Proposed Project Alternative would generate approximately 1,116 new middle school students (grades 6–8) and approximately 1,150 new high school students (grades 9–12) at buildout.

Middle schools in FCUSD have an average capacity of 800 students (Washburn, pers. comm., 2005). Using this average as the assured capacity of schools to be built on-site, the two proposed middle school sites would have a total capacity of 1,600 students. Thus, the two schools would accommodate all 1,116 new students and would have capacity for an additional 484 students. High schools in FCUSD have an average capacity of 2,000 students (Washburn, pers. comm., 2005); therefore, the proposed high school would accommodate all 1,150 new students and would have capacity for an additional 950 students. To accommodate students at the project site, school attendance boundaries would be adjusted regularly to account for the phases of development and available capacity at completed schools (Washburn, pers. comm., 2005). Therefore, with implementation of the Proposed Project Alternative, FCUSD middle schools and high schools would have sufficient capacity to accommodate students living at the project site; this alternative would not result in a shortfall of school services or facilities.

As discussed above, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. This fee is typically an insufficient amount to fund 100% of new school facility construction and operation; however, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, implementation of the Proposed Project Alternative would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur.

HD

Based on student-yield generation rates shown in Table 3.6-2, implementation of the High Density Alternative would generate approximately 1,476 new middle school students (grades 6–8) and approximately 1,519 new high school students (grades 9–12) at buildout. This would be approximately 360 and 369 more middle school and high school students, respectively, than under the Proposed Project Alternative. The two proposed middle school sites (with a total capacity of 1,600 students) would accommodate all 1,476 new students and would have capacity for an additional 124 students (see discussion above). The proposed Rio del Oro high school, with a capacity for 2,000 students (see discussion above), would accommodate all 1,519 new students and would have capacity for an additional 481 students. To accommodate students at the project site, school attendance boundaries would be adjusted regularly to account for the phases of development and available capacity at completed schools (Washburn, pers. comm., 2005). Therefore, with implementation of the High Density Alternative, FCUSD would have sufficient capacity to accommodate students living at the project site; this alternative would not result in a shortfall of school services or facilities.

As discussed above, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. This fee is typically an insufficient amount to fund 100% of new school facility construction and operation; however, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, implementation of the High Density Alternative would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur. *[Greater]*

IM

Based on student-yield generation rates shown in Table 3.6-2, implementation of the Impact Minimization Alternative would generate approximately 918 new middle school students (grades 6–8) and approximately 945 new high school students (grades 9–12) at buildout. This would be approximately 198 and 205 fewer middle school and high school students, respectively, than under the Proposed Project Alternative. The two proposed Rio del Oro middle schools (with a total capacity of 1,600 students) would accommodate all 918 students and would have capacity for an additional 682 students. The proposed high school site, with a capacity for 2,000 students (see discussion above), would accommodate all 945 students and would have capacity for an additional 1,055 students. To accommodate students at the project site, school attendance boundaries would be adjusted regularly to account for the phases of development and available capacity at completed schools (Washburn, pers. comm., 2005). Therefore, with implementation of the Impact Minimization Alternative, FCUSD would have sufficient capacity to accommodate students living at the project site; this alternative would not result in a shortfall of school services or facilities.

As discussed above, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. This fee is typically an insufficient amount to fund 100% of new school facility construction and operation; however, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, implementation of the Impact Minimization Alternative would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur. *[Lesser]*

NF Based on student-yield generation rates shown in Table 3.6-2, implementation of the No Federal Action Alternative would generate approximately 1,031 new middle school students (grades 6–8) and approximately 1,062 new high school students (grades 9–12) at buildout. This would be approximately 85 and 88 fewer middle school and high school students, respectively, than under the Proposed Project Alternative. The two proposed middle schools (with a total capacity of 1,600 students) would accommodate all 1,031 students and would have capacity for an additional 569 students. The proposed high school site, with a capacity for 2,000 students (see discussion above), would accommodate all 1,062 students and would have capacity for an additional 938 students. To accommodate students at the project site, school attendance boundaries would be adjusted regularly to account for the phases of development and available capacity at completed schools (Washburn, pers. comm., 2005). Therefore, with implementation of the No Federal Action Alternative, FCUSD would have sufficient capacity to accommodate students living at the project site; this alternative would not result in a shortfall of school services or facilities.

As discussed above, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. This fee is typically an insufficient amount to fund 100% of new school facility construction and operation; however, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, implementation of the No Federal Action Alternative would have a **less-than-significant, direct** impact on school services and facilities in the long term. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new public middle and high school facilities and services.

Because no development would occur under the No Project Alternative, there would be no demand for public middle and high school facilities and services; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

### Project Level (Phase 1) Impacts and Mitigation Measures

IMPACT 3.6-7
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Temporary Obstruction of Roadways during Construction. *Implementation of development Phase 1 could obstruct roadways in the project vicinity during construction activities, which could obstruct or slow emergency vehicles attempting to access the area.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.6-1 for further discussion of this impact.

Implementation of Mitigation Measure 3.6-1 would ensure that roadways would not be obstructed during construction. This mitigation measure would reduce the significant impact associated with the temporary obstruction of roadways during construction under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

IMPACT  
3.6-8

**Increased Demand for Fire Protection Facilities, Systems, Equipment, and Services.** *Implementation of development Phase 1 would result in increased demand for fire protection facilities, systems, equipment, and services, potentially resulting in the need for additional staff and equipment to maintain an adequate level of service.*

PP

Project implementation would result in a need for additional fire protection facilities and personnel to serve the project at full buildout. However, during initial development of Phase 1, the existing fire stations in Rancho Cordova, particularly Fire Station 66, would provide service to the Phase 1 development area. This station is approximately 2 miles west of Sunrise Boulevard and White Rock Road and would have response times of approximately 2–3 minutes.

The Fire Station Replacement Program included a proposal to build new Station 68 in the Sunrise Boulevard/Douglas Road area of Rancho Cordova south of the project site. This facility would have 16,000 square feet and space for 13 firefighters and would be available to provide fire services to the project site. After this fire station is completed, it would provide service to the entire project site, including Phase 1.

SMFD outlines fire prevention standards to be incorporated into new residential and commercial development. These standards include access arrangements, fire hydrant placement, fire flow availability, and requirements, and plan submittal requirements. Occupancy of structures would not be permitted until the project applicant(s) provide a Certificate of Release from SMFD verifying that all fire prevention items have been addressed to the satisfaction of SMFD. In addition, as required by the City General Plan, new commercial and industrial development, as well as multifamily residential development with five or more units must incorporate on-site fire suppression systems into project designs. On-site equipment and facilities would be consistent with industry standards and approved by SMFD. Because SMFD outlines fire prevention standards to be incorporated into new residential and commercial development, and these standards require approval by SMFD, impacts on fire protection facilities and services would be **direct and potentially significant**. **No indirect** impacts would occur.

HD

The estimated residential population at full buildout of development Phase 1 under the High Density Alternative is 10,686 persons. Per the City's Ordinance, new development is responsible for paying the full cost of additional needed facilities and equipment, using revenue generated by homeowner property taxes. This tax revenue would be used to pay the startup costs incurred to hire and train each of the new firefighters and purchase new equipment necessary to serve project development. Because SMFD outlines fire prevention standards to be incorporated into new residential and commercial development and these standards require approval by SMFD, impacts on fire protection facilities and services would be **direct and potentially significant**. These impacts would occur at a greater level than under the Proposed Project Alternative because approximately 2,000 additional residents would need to be served. **No indirect** impacts would occur. *[Greater]*

IM

The estimated residential population at full buildout of development Phase 1 under the Impact Minimization Alternative is 10,386 persons. Per the City's Ordinance, new development is responsible for paying the full cost of additional necessary facilities and equipment necessary, using revenue generated by homeowner property taxes. This tax revenue would be used to pay the startup costs incurred to hire and train each of the new firefighters and purchase new equipment necessary to serve project development. Because SMFD outlines fire prevention standards to be incorporated into new residential and commercial development and these standards require approval by SMFD, impacts on fire protection facilities and services would be **direct and potentially significant**. These impacts would occur at a greater level than under the

Proposed Project Alternative because more residents would need to be served. **No indirect impacts would occur.** *[Greater]*

NF The estimated residential population at full buildout of development Phase 1 under the No Federal Action Alternative is 7,414 persons. Per the City’s Ordinance, new development is responsible for paying the full cost of additional necessary facilities and equipment necessary, using revenue generated by homeowner property taxes. This tax revenue would be used to pay the startup costs incurred to hire and train each of the new firefighters and purchase new equipment necessary to serve project development. Because SMFD outlines fire prevention standards to be incorporated into new residential and commercial development and these standards require approval by SMFD, impacts on fire protection facilities and services would be **direct and potentially significant**. These impacts would occur at a lesser level than under the Proposed Project Alternative because less residents would need to be served. **No indirect impacts would occur.** *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require additional fire protection services, systems, equipment, and facilities.

Because no development would occur under the No Project Alternative, there would be no need for additional fire protection services, systems, equipment, and facilities; thus, **no direct or indirect impacts would occur.** *[Lesser]*

Mitigation Measure: Implement Mitigation Measure 3.6-2.

Implementation of Mitigation Measure 3.6-2 would ensure that applicable California Fire Code and SMFD fire prevention standards are incorporated into the project design. This mitigation measure would reduce the significant impact under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives associated with the increased demand for fire protection facilities, systems equipment, and services to a **less-than-significant** level.

**IMPACT  
3.6-9**

**Increased Demand for Fire Flow.** *Implementation of development Phase 1 would include the construction of residential, commercial, school, and other uses that would require adequate available water flow for fire suppression. Lack of adequate fire flow would impede the ability of SMFD to provide effective fire suppression at the project site.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.6-2 for further discussion of this impact.

Implementation of Mitigation Measure 3.6-2 would ensure that adequate fire flow requirements would be incorporated into project designs. This mitigation measure would reduce the significant impact under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives associated with increased demand for fire flow to a **less-than-significant** level.

**IMPACT  
3.6-10**

**Increased Demand for Police Protection Facilities, Services, and Equipment.** *Implementation of development Phase 1 would increase the demand for police protection facilities, services, and equipment, resulting in the need for additional staff and equipment to maintain an adequate level of service.*

- PP The Rancho Cordova Police Department, which is located approximately 3.5 miles from the project site, would provide first-response service to the project site. The estimated residential population at full buildout of development Phase 1 under the Proposed Project Alternative is 8,174 persons. Using the City’s ratio of one officer to 1,000 residents, a minimum of eight new police officers would be needed to accommodate development Phase 1. Approximately two administrative staff members would also be required to support these patrol officers.
- To maintain adequate levels of service, additional officers, facilities, and equipment would be required to serve the Phase 1 development area. City Ordinance No. 13-2003 levies a special tax on all taxable parcels in the project area. This tax would be included in new homeowners’ property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to the increased demand for police protection facilities and services would be **direct and less than significant**. **No indirect** impacts would occur.
- HD The estimated residential population at full buildout of development Phase 1 under the High Density Alternative is 10,686 persons. A minimum of 11 new police officers would be needed to accommodate development Phase 1. Approximately four administrative staff members would also be required to support these patrol officers. This would be approximately three more new officers and two more administrative staff members, respectively, than required under the Proposed Project Alternative. To maintain appropriate levels of service, additional officers, facilities, and equipment would be required to serve the Phase 1 development area. City Ordinance No. 13-2003 levies a special tax on all taxable parcels in the project area. This tax would be included in new homeowners’ property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to the increased demand for police protection facilities and services would be **direct and less than significant** and would be greater than under the Proposed Project Alternative because three additional police officers and two additional administrative staff members would be required. **No indirect** impacts would occur. *[Greater]*
- IM The estimated residential population at full buildout of development Phase 1 under the Impact Minimization Alternative is 10,386 persons. A minimum of 10 additional police officers would be needed to accommodate development Phase 1. Approximately three administrative staff members would also be required to support these patrol officers. This would be approximately two more new officers and one more administrative staff member, respectively, than required under the Proposed Project Alternative. To maintain appropriate levels of service, additional officers, facilities, and equipment would be required to serve the Phase 1 development area. City Ordinance No. 13-2003 levies a special tax on all taxable parcels in the project area. This tax would be included in new homeowners’ property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to the increased demand for police protection facilities and services would be **direct and less than significant**. **No indirect** impacts would occur. *[Greater]*
- NF The estimated residential population at full buildout of development Phase 1 under the No Federal Action Alternative is 7,414 persons. A minimum of seven additional police officers would be needed to accommodate development Phase 1. Approximately two administrative staff members would also be required to support these patrol officers. This would be approximately one more new officer than required under the Proposed Project Alternative. No additional administrative staff members would be necessary. To maintain appropriate levels of service, additional officers, facilities, and equipment would be required to serve the Phase 1 development area. City Ordinance No. 13-2003 levies a special tax on all taxable parcels in the project area.

This tax would be included in new homeowners' property taxes and would be used to pay for new equipment and the startup costs incurred to hire and train each of the new police officers necessary to serve project development. Impacts related to the increased demand for police protection facilities and services would be **direct** and **less than significant**. **No indirect** impacts would occur. *[Greater]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require additional police protection services and facilities.

Because no development would occur under the No Project Alternative, there would be no requirement for additional police protection services and facilities; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT**  
**3.6-11**

**Increased Demand for Public Elementary School Facilities and Services.** *Implementation of development Phase 1 would increase demand for elementary schools (grades K–5) to serve the project site.*

PP The County Community Development Department, City Planning Department, and individual developers were contacted for information regarding current and future improvement plans to calculate the projected residential development in Rancho Cordova. These projects have received or are in the process of receiving tentative map approval from the appropriate planning agencies. Approximately 2,480 single-family and 746 multifamily units (not including the proposed Rio del Oro project) are projected to be built in Rancho Cordova before the end of 2009. The Proposed Project Alternative and other projected residential development in Rancho Cordova would generate a total of approximately 3,976 new students (grades K–12) by 2009. The current enrollment for all schools in the city is approximately 8,800 students, and the current school capacity is 9,734 students. With an additional 3,976 students anticipated by 2009, school facilities would exceed capacity under current conditions (FCUSD 2005).

Based on student-yield generation rates shown in Table 3.6-2, implementation of the Proposed Project Alternative would generate approximately 800 new elementary school students (grades K–5) at buildout of Phase 1.

FCUSD is in the planning stages for the first elementary school to be located in the central portion of development Phase 1, on 9 acres south of Rancho Cordova Parkway and east of Rio del Oro Parkway. This school would have a capacity for approximately 612 pupils. Construction of the elementary school is planned for spring 2007 through summer 2008 (FCUSD 2004). In the short term, Rio del Oro students would likely be bused to elementary schools near development Phase 1, including Rancho Cordova Elementary (2.3 miles northwest), Cordova Lane Elementary (2.4 miles northwest), White Rock Road Elementary (2.6 miles west), Williamson Elementary (2.9 miles northwest), or PJ Shields Elementary (3.0 miles northwest). Based on enrollment figures for the 2003–2004 school year, these elementary schools would have the capacity to accommodate some of the students generated by development Phase 1.

Because the Phase 1 elementary school would not have sufficient capacity for all 800 students generated during development Phase 1, approximately 188 students would not be accommodated by this school facility. Portable classrooms could be added to existing school sites to

accommodate additional students, or students could be bused to nearby schools that have additional capacity (Washburn, pers. comm., 2005). However, as required by state law, the project applicant(s) would pay the state-mandated school impact fees to FCUSD to mitigate impacts on schools. As of August 2005, the developer is charged Level II fees of \$4.57 per square foot for residential development and \$0.36 per square foot for commercial development in the FCUSD boundaries. The City would determine the assessable square footage that would be subject to the fee at the time of development (FCUSD 2005). This fee is typically insufficient to fund 100% of new school facility construction. Thus, other funding sources (see discussion in “Affected Environment”) would be needed to construct schools. However, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. With payment of the state-mandated school impact fees, implementation of the Proposed Project Alternative would have a **less-than-significant, direct** impact on school services and facilities in the short term. **No indirect** impacts would occur.

**HD** Based on student-yield generation rates shown in Table 3.6-2, implementation of the High Density Alternative would generate approximately 1,049 new elementary school students (grades K–5) at buildout of Phase 1. This would be approximately 249 more students than under the Proposed Project Alternative. The proposed elementary school would not have sufficient capacity for all 1,049 new students generated during development Phase 1, resulting in a shortfall of school services and facilities for approximately 437 students. Portable classrooms could be added to existing school sites to accommodate additional students, or students could be bused to nearby schools that have additional capacity (Washburn, pers. comm., 2005). The project applicant(s) would pay the state-mandated school impact fees to FCUSD. With payment of these fees, implementation of the High Density Alternative would result in **less-than-significant, direct** impacts on school facilities and services in the short term. **No indirect** impacts would occur. *[Greater]*

**IM** Based on student-yield generation rates shown in Table 3.6-2, implementation of the Impact Minimization Alternative would generate approximately 759 new elementary school students (grades K–5) at buildout of Phase 1. This would be approximately 41 fewer students than under the Proposed Project Alternative. The proposed elementary school would not have sufficient capacity for all 759 students generated during development Phase 1, resulting in a shortfall of school services and facilities for approximately 147 students. Portable classrooms could be added to existing school sites to accommodate additional students, or students could be bused to nearby schools that have additional capacity (Washburn, pers. comm., 2005). The project applicant(s) would pay the state-mandated school impact fees to FCUSD to mitigate impacts on schools. With payment of these fees, implementation of the Impact Minimization Alternative would have a **less-than-significant, direct** impact on school facilities and services in the short term. **No indirect** impacts would occur. *[Lesser]*

**NF** Based on student-yield generation rates shown in Table 3.6-2, implementation of the No Federal Action Alternative would generate approximately 672 new elementary school students (grades K–5) at buildout of Phase 1. This would be approximately 41 fewer students than under the Proposed Project Alternative. The proposed elementary school would not have sufficient capacity for all 672 students generated during development Phase 1, resulting in a shortfall of school services and facilities for approximately 60 students. Portable classrooms could be added to existing school sites to accommodate additional students, or students could be bused to nearby schools that have additional capacity (Washburn, pers. comm., 2005). The project applicant(s) would pay the state-mandated school impact fees to FCUSD to mitigate impacts on schools. With payment of these fees, implementation of the No Federal Action Alternative would have a **less-than-significant, direct** impact on school facilities and services in the short term. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new public school facilities and services.

Because no development would occur under the No Project Alternative, there would be no increase in demand for public school facilities and services; thus, **no direct** or **indirect** impacts would occur. [*Lesser*]

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.6-12**

**Increased Demand for Public Middle School and High School Facilities and Services.** *Implementation of development Phase 1 would increase demand for middle schools (grades 6–8) and high schools (grades 9–12) to serve the project site.*

PP The County Community Development Department, City Planning Department, and individual developers were contacted for information regarding current and future improvement plans to calculate the projected residential development in Rancho Cordova. These projects have received or are in the process of receiving tentative map approval from the appropriate planning agencies. Approximately 2,480 single-family and 746 multifamily units (not including the proposed Rio del Oro project) are projected to be built in Rancho Cordova before the end of 2009. The Proposed Project Alternative and other projected residential development in Rancho Cordova would generate a total of approximately 3,976 new students (grades K–12) by 2009. The current enrollment for all schools in the city is approximately 8,800 students, and the current school capacity is 9,734 students. With an additional 3,976 students anticipated by 2009, school facilities would exceed capacity under current conditions (FCUSD 2005).

Based on student-yield generation rates shown in Table 3.6-2, implementation of the Proposed Project Alternative would generate approximately 278 new middle school students (grades 6–8) and approximately 197 new high school students (grades 9–12) at buildout of Phase 1.

The proposed middle school and high school site would accommodate a combined campus on one 78-acre site east of Rancho Cordova Parkway and north of Rio del Oro Parkway. The school would be designed to serve approximately 800 middle school students and 2,000 high school students. The proposed new middle school/high school would be constructed from spring 2007 through summer 2009 (FCUSD 2004). Before and during construction of the Rio del Oro school, middle school students living at the project site would attend either Mills Middle School (2.8 miles northwest of Phase 1) or Mitchell Middle School (2.4 miles north of Phase 1), and high school students would attend Cordova High School (3.5 miles northwest of Phase 1). Based on FCUSD enrollment data for the 2003–2004 school year, Mills Middle School, Mitchell Middle School, and Cordova High School would have the capacity to accommodate some of the students generated by development Phase 1.

When completed, the proposed middle school would accommodate all 278 new students from development Phase 1 and would have capacity for an additional 522 students. The proposed high school would accommodate all 197 new students from development Phase 1 and would have capacity for an additional 1,803 students. Therefore, the Phase 1 combined middle school/high school would have sufficient capacity to accommodate students living at the project site; there would not be a shortfall of school services or facilities at buildout.

As required by state law, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. As of August 2005, the developer is charged Level II fees of \$4.57 per square foot for residential development and \$0.36 per square foot for commercial development in the FCUSD boundaries. The City would determine the assessable square footage that would be subject to the fee at the time of development (FCUSD 2005). This fee is typically insufficient to fund 100% of new school facility construction. Thus, other funding sources (see discussion in “Affected Environment”) would be needed to construct schools. However, the California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Because the project applicant(s) would pay the state-mandated school impact fees, and because the Phase 1 combined middle school/high school would have sufficient capacity to accommodate students living at the project site, implementation of the Proposed Project Alternative would have a **less-than-significant, direct** impact on school services and facilities in the short term. **No indirect** impacts would occur.

**HD** Based on student-yield generation rates shown in Table 3.6-2, implementation of the High Density Alternative would generate approximately 365 new middle school students (grades 6–8) and approximately 376 new high school students (grades 9–12) at buildout of Phase 1. This would be approximately 87 and 179 more middle school and high school students, respectively, than under the Proposed Project Alternative. When completed, the proposed middle school would accommodate all 365 new students from development Phase 1 and would have capacity for an additional 435 students. The proposed high school would accommodate all 376 new students from development Phase 1 and would have capacity for an additional 1,624 new students. Therefore, the Phase 1 combined middle school/high school would have sufficient capacity to accommodate students living at the project site; there would not be a shortfall of school services or facilities at buildout.

As discussed above, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. With payment of these fees, implementation of the High Density Alternative would have a **less-than-significant, direct** impact on school facilities and services in the short term. **No indirect** impacts would occur. *[Greater]*

**IM** Based on student-yield generation rates shown in Table 3.6-2, implementation of the Impact Minimization Alternative would generate approximately 264 new middle school students (grades 6–8) and approximately 272 new high school students (grades 9–12) at buildout of Phase 1. This would be approximately 14 fewer middle school students and 75 more high school students than under the Proposed Project Alternative. When completed, the proposed middle school would accommodate all 264 new students from development Phase 1 and would have capacity for an additional 536 students. The proposed high school would accommodate all 272 new students from development Phase 1 and would have capacity for an additional 1,728 students. Therefore, the Phase 1 combined middle school/high school would have sufficient capacity to accommodate students living at the project site; there would not be a shortfall of school services or facilities at buildout.

As discussed above, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. With payment of these fees, implementation of the Impact Minimization Alternative would have a **less-than-significant, direct** impact on school facilities and services in the short term. **No indirect** impacts would occur. *[Lesser]*

**NF** Based on student-yield generation rates shown in Table 3.6-2, implementation of the No Federal Action Alternative would generate approximately 234 new middle school students (grades 6–8) and approximately 241 new high school students (grades 9–12) at buildout of Phase 1. This would be approximately 44 fewer middle school students and 44 more high school students than

under the Proposed Project Alternative. When completed, the proposed middle school would accommodate all 234 new students from development Phase 1 and would have capacity for an additional 559 students. The proposed high school would accommodate all 241 new students from development Phase 1 and would have capacity for an additional 1,759 students. Therefore, the Phase 1 combined middle school/high school would have sufficient capacity to accommodate students living at the project site; there would not be a shortfall of school services or facilities at buildout.

As discussed above, the project applicant(s) would pay the state-mandated school impact fees to FCUSD. With payment of these fees, implementation of the No Federal Action Alternative would have a **less-than-significant, direct** impact on school facilities and services in the short term. **No indirect** impacts would occur. *[Lesser]*

**NP** Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not require the provision of new public middle school and high school facilities and services.

Because no development would occur under the No Project Alternative, there would be no increase in demand for public middle school and high school facilities and services; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

## **CUMULATIVE IMPACTS**

Project implementation would generate a significant increase in demand for local fire, police, and school services and facilities and could significantly impede the provision of emergency services during construction. For this cumulative analysis, the public services provided to the project by SMFD, SCSD, and FCUSD are compared to past, present, and future planned growth in these service providers' districts. Significant project impacts would be reduced to less-than-significant levels through implementation of mitigation measures identified in this section. These mitigation measures include, but are not limited to, preparing and implementing traffic control plans during construction to prevent obstructions of emergency vehicles; limiting occupancy of structures until SMFD has issued a Certificate of Release (Standard 441.105, "Certificate of Release—Residential"); verifying that all fire prevention items have been addressed on-site to SMFD's satisfaction; limiting occupancy of structures until adequate minimum fire flows have been confirmed; requiring payment by the project applicant(s) of fees and equipment costs to provide new police officers; and requiring payment of state-mandated school impact fees.

In terms of cumulative impacts, the City, appropriate service providers, and FCUSD are responsible for ensuring adequate provision of public services within their jurisdictional boundaries. For the project, proposed on-site schools would have sufficient capacity to accommodate students living at the project site; there would not be a shortfall of school services or facilities. In addition, these school facilities would potentially have capacity for some additional students generated by related projects. However, under the High Density Alternative, elementary schools would not accommodate all students generated by the project, resulting in a shortfall of school services and the need for portable classrooms and busing of students to nearby schools outside project site. The High Density Alternative could potentially result in a significant cumulative environmental effect associated with the development of school facilities. Under state law (e.g., Senate Bill 50), it is not clear whether the City can require the addition of elementary school sites in the High Density Alternative as mitigation under CEQA. The City has the power, however, to identify such sites as part of its planning and zoning responsibilities.

At this time, it is unclear whether sufficient police, fire, and school facilities are planned to serve the related projects within Rancho Cordova. While some of the related projects include proposals for the construction of service facilities, including schools, others do not. However, it is clear that sufficient police facilities, fire stations, and schools would need to be constructed to serve the related projects. State law provides that payment of school impact fees constitutes adequate CEQA mitigation for all project-specific and cumulative effects relating to adequacy of school facilities as a result of residential development.

Although a cumulative shortage of public services and facilities would not represent a significant environmental impact because these are not, strictly speaking, “environmental effects,” such a shortage would lead to the need to develop additional public-services facilities, which could lead to significant construction- and operation-related environmental effects. It is assumed that the development of the related projects, and/or development of the additional public-services facilities required to serve them, would be preceded by the required CEQA review. However, conducting the required CEQA review would not necessarily guarantee that significant environmental effects associated with construction of new fire, police, and school facilities would not occur. Hence, significant cumulative environmental effects associated with the development of new fire, police, and school facilities could potentially occur in association with the cumulative impacts of related projects.

After implementation of the mitigation measures identified above, the Rio del Oro project would not create a significant demand for public services, and development of the project, including the proposed schools, would result in less-than-significant impacts (after implementation of mitigation) for the majority of environmental issues evaluated in this DEIR/DEIS. However, project development would result in significant and unavoidable cumulative impacts related to visual resources, biological resources, cultural resources, traffic, air quality, and noise (see Chapter 4). The proposed Rio del Oro project would result in cumulatively considerable incremental contributions to significant cumulative environmental effects associated with the development of necessary public-services facilities; therefore, it would contribute to significant cumulative public-services impacts.

### **3.6.4 RESIDUAL SIGNIFICANT IMPACTS**

With implementation of the mitigation measures described above, project implementation would not result in any residual significant impacts directly related to fire protection, law enforcement services, or public schools.

## 3.7 GEOLOGY, SOILS, AND MINERAL RESOURCES

### 3.7.1 AFFECTED ENVIRONMENT

#### PHYSIOGRAPHIC SETTING

The project site is located in the Sacramento Valley, approximately 3 miles south of the American River, and lies centrally within the Great Valley geomorphic province of California. The Sacramento Valley forms the northern third of the Great Valley, which includes approximately 33,000 square miles and fills a northwest-trending structural depression bounded on the west by the Great Valley Fault Zone and the Coast Ranges, and on the east by the Sierra Nevada and the Foothills Fault zone. Relatively few faults in the Great Valley have been active during the last 10,000 years. Most of the surface of the Great Valley is covered with Holocene and Pleistocene-age alluvium, composed primarily of sediments from the Sierra Nevada and the Coast Range that were carried by water and deposited on the valley floor. Siltstone, claystone, and sandstone are the primary types of sedimentary deposits. Older Tertiary deposits underlie the Quaternary alluvium. (Hackel 1966, Page 1974, Cherven and Graham 1983.)

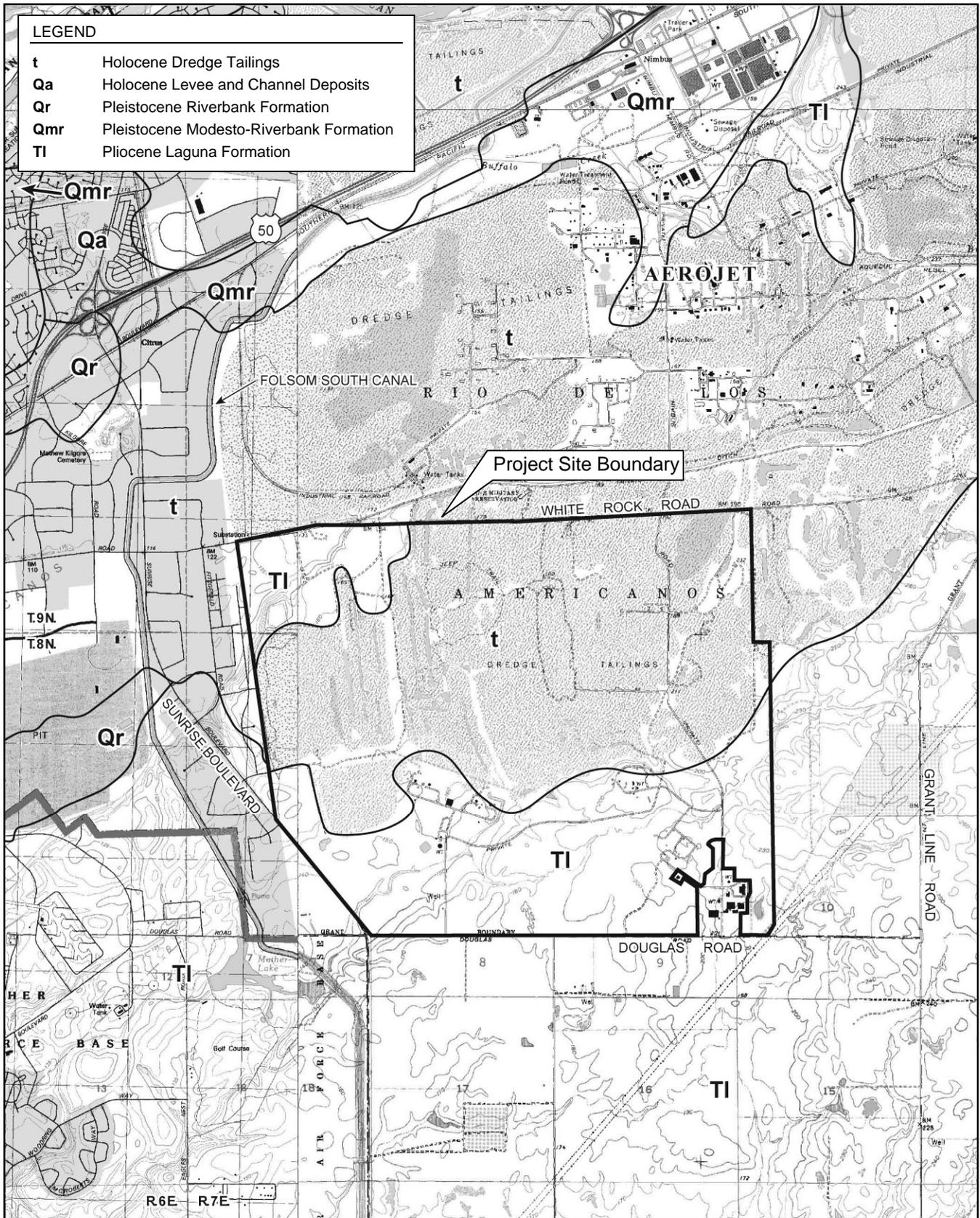
The project site is located in the U.S. Geological Survey (USGS) Buffalo Creek 7.5-Minute Quadrangle and is approximately 3,800 acres in size. The topography is relatively flat over approximately 30% of the site; the remaining portion is covered with piles of dredge tailings up to 20 feet high, giving the site a gently rolling appearance. Elevation at the project site ranges from 150 to 200 feet above mean sea level.

#### LOCAL GEOLOGY

Because the Sierra Nevada continues to be uplifted relative to the basin floor, rivers are continually cutting channels downward, thus leaving older rocks exposed at the surface, particularly in the eastern portions of the valley. Ancient stream terraces, which represent time periods of progressive downcutting of rivers (the American River in the project vicinity), are preserved at the project site and in the surrounding study area. Among the stream terrace debris were gold-bearing (auriferous) rocks carried by glacial meltwaters from high in the Sierra Nevada where they merged with the American River.

The southern and eastern portions of the project site are underlain by the Laguna Formation, which is of Pliocene age (approximately 5 million years Before Present [B.P.]) (Wagner et al. 1987, ERM 2003). These areas are delineated as "T1" in Exhibit 3.7-1. The Laguna Formation is composed of a mixture of sedimentary deposits of silt, clay, and sand interbedded with cobbles of the ancestral American River channel. This formation probably extends downward at a 45-degree angle south of the American River, in essence forming a wedge above the underlying volcanic rocks, which thins toward the Sierra Nevada and thickens toward the axis of the valley. The average depth of the Laguna Formation in the eastern portion of the valley is probably less than 500 feet. Volcanic materials forming the basement rocks approximately 250 feet thick have been reported beneath the Laguna Formation south of Folsom in wells drilled for gold-dredging operations. (Bartow and Helley 1979.)

The northern, central, and western portions of the project site are covered by dredge tailings derived from mining activities conducted during the last 100 years. Dredging operations conducted in this area resulted in piles of cobbles and silt that have been piled up to 20 feet above the original ground surface, and extend 80–120 feet below the ground surface. Those portions of the project site that are adjacent to Morrison Creek (trending northeast to southwest across the project site) are composed of undifferentiated Holocene-age surficial deposits (Bartow and Helley 1979). These deposits include sand, silt, and clay that have been deposited by Morrison Creek. The Laguna Formation underlies these deposits, followed by igneous basement rocks at depth.



Source: USGS Citrus Heights/Carmichael Quads 1992, USGS Folsom/Bufalo Creek Quads 1980, ERM 2003, Wagner et. al. 1987

## Geologic Formations

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 3T089.01 06/05

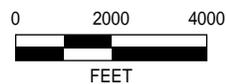


EXHIBIT 3.7-1



## REGIONAL SEISMICITY AND FAULT ZONES

With the exception of the Dunnigan Hills fault, located in the Woodland area, the Sacramento Valley has generally not been seismically active in the last 10,000 years. Faults closest to the project site with known or estimated activity during the Holocene are generally located in the San Francisco Bay Area (Bay Area) at least 45 miles to the west and lie within the Coast Range geomorphic province, as shown in Table 3.7-1.

Fault	Distance from Project Site (miles)	Location
Dunnigan Hills	35	Sacramento Valley, Woodland
Great Valley Thrust Zone	45	Coast Range, western San Joaquin Valley
Green Valley	50	Coast Range, Bay Area
Concord	55	Coast Range, Bay Area
Clayton	55	Coast Range, Bay Area
Marsh Creek	60	Coast Range, Bay Area
Greenville	65	Coast Range, Bay Area

Sources: Harwood and Helley 1987, Jennings 1994

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is fault ground rupture, also called surface faulting. Common secondary seismic hazards include ground shaking, liquefaction, and subsidence. Each of these potential hazards is discussed below.

### Surface Faulting

Surface ground rupture along faults is generally limited to a linear zone a few meters wide. Because no active faults have been mapped across the project site by the California Geological Survey or USGS, nor is the project site located within an Alquist-Priolo Earthquake Fault Zone, fault ground rupture does not represent a hazard at the project site (California Geological Survey 1999, Hart and Bryant 1999).

### Seismic Ground Shaking

The most important geologic hazard that could affect the project is the risk to life and property from an earthquake generated by active and potentially active faults in the Bay Area and along the western margin of the San Joaquin Valley.

Seismic ground shaking is the most likely seismic hazard to affect the project site. According to the California Building Standards Code (CBC), 1998 edition, the site is located in Seismic Zone 3. This location implies a minimum horizontal acceleration of 0.3g (where “g” is the acceleration of gravity) for use in earthquake resistant design.

Ground motion can be estimated by probabilistic method at specified hazard levels. The intensity of ground shaking depends on the distance from the earthquake epicenter to the site, the magnitude of the earthquake, site soil conditions, and the characteristic of the source. The *Probabilistic Seismic Hazard Assessment for the State of California* (Petersen et al. 1996), published by USGS and the California Division of Mines and Geology (CDMG), identifies the seismic hazard based on a review of these characteristics and historical seismicity

throughout California. The results of these studies suggest that there is a 10% probability that the peak horizontal acceleration experienced at the site would exceed 0.2g in 50 years. Damage to a single-family dwelling typically begins at 0.2g (Risk Prediction Initiative 1996, Rogers et al. 1996).

The CBC specifies more stringent design guidelines where a project would be located adjacent to a Class “A” or “B” fault as designed by the California Probabilistic Seismic Hazard Maps. Faults with an “A” classification are capable of producing large magnitude (M) events (M greater than 7.0), have a high rate of seismic activity (e.g., slip rates greater than 5 millimeters per year), and have well-constrained paleoseismic data (e.g., evidence of displacement within the last 700,000 years). Class “B” faults are those that lack paleoseismic data necessary to constrain the recurrence intervals of large-scale events. Faults with a “B” classification are capable of producing an event of M 6.5 or greater. A review of the available geologic data indicates that there are no Class A or B faults within the vicinity of the project site.

### **Ground Failure/Liquefaction**

Liquefaction is a process by which water-saturated materials (including soil, sediment, and certain types of volcanic deposits) lose strength and may fail during strong ground shaking. Liquefaction is the transformation of a granular material from a solid state into a liquefied state as a consequence of increased pore-water pressure. This behavior is most commonly induced by strong ground shaking associated with earthquakes. In some cases, a complete loss of strength occurs and catastrophic ground failure may result. However, liquefaction may happen where only limited strains develop, and ground surface deformations are much less serious.

Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking.

Groundwater maps prepared by the Sacramento County Public Works Agency (fall 2002) indicate a groundwater elevation at the project site of approximately 40–50 feet relative to mean sea level (Sacramento County Public Works Agency 2002). Because elevation at the project site ranges from 150 to 200 feet above mean sea level, this would place the groundwater level at approximately 110–150 feet beneath the surface.

Because the project site has a relatively deep groundwater table, soils at the project site are relatively stable, and potential sources of seismic activity are a relatively long distance away, sediments underlying the project site can be expected to have a low liquefaction potential.

There are four types of ground failure or collapse of soil structures that commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength. However, because the liquefaction potential is considered low, additional details on these types of ground failure are not discussed further in this DEIR/DEIS.

### **Subsidence and Settlement**

Land surface subsidence can be induced by both natural phenomena and human activity. Natural phenomena include subsidence resulting from tectonic deformations and seismically induced settlements; soil subsidence because of consolidation, hydrocompaction, or rapid sedimentation; subsidence because of oxidation or dewatering of organically rich soils; and subsidence related to subsurface cavities. Subsidence related to human activity includes subsurface fluid or sediment withdrawal. Pumping of water for residential, commercial, and agricultural uses from subsurface water tables causes the greatest amount of subsidence in Sacramento County. According to the *County of Sacramento General Plan* (County General Plan) (County of Sacramento 1993) and the *Rancho Cordova General Plan* (City General Plan), the project site is located within a potential groundwater-basin subsidence area.

## Seismic Seiches

Earthquakes may affect open bodies of water by creating seismic sea waves and seiches. Seismic sea waves (often called “tidal waves”) are caused by abrupt ground movements (usually vertical) on the ocean floor in connection with a major earthquake. Because of the distance of the project site from the ocean, seismic sea waves would not be a factor at the project site. A seiche is a sloshing of water in an enclosed or restricted water body such as a basin, river, or lake. It is caused by earthquake motion; the sloshing can occur for a few minutes or several hours. Although an 1868 earthquake along the Hayward fault in the Bay Area is known to have generated a seiche along the Sacramento River, the affected area was located in the Sacramento–San Joaquin Delta, where levees are subject to overtopping and subsequent failure. Seiches are not likely to occur in the vicinity of the project site.

## RECREATIONAL GEOLOGIC FEATURES

Recreational geologic resources typically include rock or mineral collections, volcanoes, surface hydrothermal features, or surface expression of geologic features unique enough to generate public recreational interest (e.g., natural bridges, caves, features associated with glaciation, and geomorphic features such as waterfalls, cliffs, canyons, and badlands). Because the piles of dredge tailings on the project site have been thoroughly investigated for the presence of gold, they are not likely to be of interest to recreational collectors. Furthermore, the dredge tailings are expected to be removed under separate mining permits before Rio del Oro construction. Based on a field visit and review of the geological literature and topographic maps, there are no other known recreational geologic resources associated with the project site.

## SOIL RESOURCES

The project site lies on the eastern side of the Sacramento Valley, approximately 5 miles from the metamorphic and igneous rocks that form the beginning of the Sierra Nevada foothills. Surface soils on the project site and in the surrounding area consist, in general, of two geomorphic surfaces: low-lying, late Pleistocene–age terraces that are often referred to as alluvial plain or old alluvial fan; and intermediate terraces of mid-Pleistocene age (NRCS 1993).

The low terraces consist of three levels: a main level at the surface, a lower level in beveled areas descending toward a drainageway, and a high level (Natomas soils) associated with an older, major channel deposit of the American River that is located near the surface in Rancho Cordova. Parent material of soils on the low terraces is primarily fine grained, fluvial and glacial alluvium derived from mixed rock sources, including granite in most areas (NRCS 1993). Zones of sedimentary and metamorphic rocks are mixed with the granitic rocks. The presence of Natomas soil, in the northwest corner of the project site (development Phase 1), is noteworthy because of its red subsurface layer, which is caused by a high iron content from the parent material—dark, metamorphosed igneous rocks.

Portions of the project site also form part of an intermediate terrace remnant associated with channel deposits; however, most of the soils of this terrace were removed by gold-dredging activities. Soils in this terrace are dominated by the well-drained Red Bluff series, whose parent material consists of gravelly alluvium derived from fluvial and glacial sources laid down by an ancestral channel of the American River (NRCS 1993). Red Bluff soils consist of rounded pebbles and cobbles derived from dark metamorphic, quartzitic, and andesitic rocks in a granitic sand matrix.

Soils on the project site are part of the Pliocene-age Laguna Formation. Certain soil types, particularly the Redding series, that are part of this formation tend to capture and hold water during winter and spring rains because of the presence of claypans and hardpans, which are generally impervious to water penetration. Where depressions occur on these soils, rainwater tends to pond, forming vernal pools.

Beginning in the 1920s, most of the land in the project study area was acquired by the Natomas Company for bucket-line dredging of gold-bearing gravel deposits. This dredging continued in the project vicinity through the early 1960s. Piles of dredge tailings (soil type 245) mixed with slickens (soil type 223) cover approximately 70% of the surface area of the project site.

According to the Natural Resources Conservation Service (NRCS) (1993) and CDMG (Wagner et al. 1987, Churchill and Hill 2000), the project site does not contain any soil types or rock formations that would be a source of naturally occurring asbestos.

Identification of soil types and their distribution was accomplished primarily through a review of maps provided by the U.S. Soil Conservation Service (now called NRCS). The soil map units associated with the project site are listed in Table 3.7-2. Exhibit 3.7-2 provides a detailed map of the surficial soils on the project site. Table 3.7-3 provides a detailed summary of the physical and chemical characteristics of each soil type identified from the project site. A discussion of soil characteristics follows Table 3.7-3.

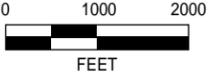
Project Development Phase	Soil Mapping Unit
Phase 1	159—Hicksville gravelly loam, 0–2% slopes 181—Natomas loam, 0–2% slopes 191—Red Bluff loam, 0–2% slopes 192—Red Bluff loam, 2–5% slopes 193—Red Bluff-Redding gravelly loam, 0–5% slopes 223—slickens 245—Xerorthents, dredge tailings
Phase 2	196—Red Bluff-Xerorthents 245—Xerorthents, dredge tailings
Phase 3	191—Red Bluff loam, 0–2% slopes 192—Red Bluff loam, 2–5% slopes 198—Redding gravelly loam, 0–7% slopes 245—Xerorthents, dredge tailings
Phase 4	192—Red Bluff loam, 2–5% slopes 223—slickens 245—Xerorthents, dredge tailings
Phase 5	145—Fiddymment fine sandy loam, 0–8% slopes 159—Hicksville gravelly loam, 0–2% slopes 192—Red Bluff loam, 2–5% slopes 193—Red Bluff-Redding gravelly loam, 0–5% slopes 198—Redding gravelly loam, 0–7% slopes 245—Xerorthents, dredge tailings
Source: NRCS 1993	



Source: U.S. Department of Agriculture, Soil Conservation Service, Carmichael and Buffalo Creek Quadrangles

**Project Site Soil Types**

EXHIBIT 3.7-2



**Table 3.7-3  
Soil Mapping Unit Descriptions**

Map <sup>1</sup>	Soil Series Name	Depth (inches)	USDA texture	Shrink-Swell Potential	Permeability (in/hr)	Drainage	Erosion Hazard	Erosion Factors <sup>2</sup>		Land Capability <sup>3</sup>	pH	Plasticity Index <sup>4</sup>
								K	T			
145	Fiddyment	0–8	Fine sandy loam	Low	0.6–2.0	Well drained	Moderate for excavation; high on steep slopes with cut and fill	0.37	2	IVe Nonirrigated Irrigated	5.6–7.3	NP–10
		8–15	Loam	Low	0.6–2.0			0.43			5.6–7.3	5–10
		15–28	Sandy clay loam, clay loam	Moderate	<0.06			0.32			6.1–7.8	15–25
		28–40	Indurated	—	—			—			—	—
		40	Weathered bedrock	—	—			—			—	—
159	Hicksville	0–13	Gravelly loam	Low	0.6–2.0	Moderately well drained	Slight	0.17	5	IIw-Irrigated IIIw Nonirrigated	5.6–6.5	5–10
		13–43	Gravelly clay loam, gravelly sandy clay loam	Moderate	0.2–0.6			0.15			6.1–7.8	10–20
		43–65	Stratified very gravelly loamy sand to clay loam	Low	0.2–0.6			0.10			6.6–7.8	NP–10
181	Natomas	0–17	Loam	Low	0.6–2.0	Well drained	Slight	0.32	5	I-Irrigated IIIc Nonirrigated	6.1–7.3	5–15
		17–33	Loam, clay loam	Low	0.6–2.0			0.32			5.6–7.3	10–20
		33–78	Clay loam	Moderate	0.2–0.6			0.28			5.1–6.5	15–25
		78–84	Stratified gravelly coarse sandy loam to sandy loam	Low	0.6–2.0			0.24			6.1–7.3	5–10
191	Red Bluff	0–8	Loam	Low	0.6–2.0	Well drained	Slight	0.32	5	IIs-Irrigated IIIs Nonirrigated	5.1–6.5	5–15
		8–25	Clay loam	Moderate	0.2–0.6			0.32			6.1–7.3	10–20
		25–68	Clay loam, gravelly clay loam, clay	Moderate	0.2–0.6			0.24			6.1–7.3	15–30
192	Red Bluff	0–8	Loam	Low	0.6–2.0	Well drained	Slight to moderate	0.32	5	IIIe Nonirrigated	5.1–6.0	5–15
		8–25	Clay loam, gravelly clay loam	Moderate	0.2–0.6			0.24			5.1–6.5	10–20
		25–43	Clay loam, gravelly clay loam, gravelly clay	Moderate	0.2–0.6			0.24			5.6–6.5	15–30
		43–68	Gravelly clay loam, very gravelly clay loam, very gravelly clay	Moderate	0.2–0.6			0.24			5.6–6.5	10–20

<b>Table 3.7-3 (Continued) Soil Mapping Unit Descriptions</b>												
Map <sup>1</sup>	Soil Series Name	Depth (inches)	USDA texture	Shrink-Swell Potential	Permeability (in/hr)	Drainage	Erosion Hazard	Erosion Factors <sup>2</sup>		Land Capability <sup>3</sup>	pH	Plasticity Index <sup>4</sup>
								K	T			
193	Red Bluff	0–8	Loam	Low	0.6–2.0			0.32			5.1–6.0	5–15
	45%	8–25	Clay loam, gravelly clay loam	Moderate	0.2–0.6			0.24			5.1–6.5	10–20
		25–43	Clay loam, gravelly clay loam, gravelly clay	Moderate	0.2–0.6	Moderately well drained	Slight to moderate	0.24	5	IVe Nonirrigated	5.6–6.5	15–30
		43–68	gravelly clay loam, very gravelly clay loam, very gravelly clay	Moderate	0.2–0.6			0.24			5.6–6.5	10–20
	Redding	0–7	Gravelly loam	Low	0.6–2.0			0.24			5.1–6.5	5–15
	40%	7–20	Gravelly loam, gravelly clay loam	Moderate	0.2–0.6	Moderately well drained	Slight to moderate	0.24	2	IVe Nonirrigated	5.1–6.5	5–15
		20–28	Gravelly clay loam, gravelly clay	High	<0.06			0.20			5.6–6.5	15–30
		28–66	Indurated	—	—			—			—	—
196	Red Bluff	0–8	Loam	Low	0.6–2.0			0.32			5.1–6.0	5–15
	45%	8–25	Clay loam, gravelly clay loam	Moderate	0.2–0.6			0.24			5.1–6.5	10–20
		25–43	Clay loam, gravelly clay loam, gravelly clay	Moderate	0.2–0.6	Well drained	Slight	0.24	5	VIIs Nonirrigated	5.6–6.5	15–30
		43–68	Gravelly clay loam, very gravelly clay loam, very gravelly clay	Moderate	0.2–0.6			0.24			5.6–6.5	10–20
	Xerorthents	variable	Gravel and cobbles (dredge tailings)	—	Very rapid	Excessive		—	—		—	—

**Table 3.7-3 (Continued)  
Soil Mapping Unit Descriptions**

Map <sup>1</sup>	Soil Series Name	Depth (inches)	USDA texture	Shrink-Swell Potential	Permeability (in/hr)	Drainage	Erosion Hazard	Erosion Factors <sup>2</sup>		Land Capability <sup>3</sup>	pH	Plasticity Index <sup>4</sup>	
								K	T				
198	Redding	0-7	Gravelly loam	Low	0.6-2.0	Moderately well drained	Slight to moderate	0.24		IVe Nonirrigated Irrigated	5.1-6.5	5-15	
		7-20	Gravelly loam, gravelly clay loam	Moderate	0.2-0.6			2	5.1-6.5				5-15
		20-28	Gravelly clay loam, gravelly clay	High	<0.06								
		28-66	Indurated	—	—			—	—				—
223	Slickens	variable	Fine textured materials separated during gold-dredging activities	—	Slow	Poor	Slight	—	—	— (Soil properties variable)	—	—	
245	Xerorthents	variable	Gravel and cobbles (dredge tailings)	—	Very rapid	Excessive	None	—	—	VIIIs Nonirrigated	—	—	
<p><sup>1</sup> Soil map numbers refer to numbers shown in Exhibit 3.7-2.</p> <p><sup>2</sup> K is a measurement of relative susceptibility to sheet and rill erosion by water. It ranges from 0.10 to 0.64, with lower values representing a lower susceptibility to erosion. T represents soil loss tolerance, which is defined as the maximum rate of soil erosion (wind and water) without reducing crop production or environmental quality. Values range from 1 to 5 tons of soil loss per acre per year, with 5 representing soils less sensitive to erosion.</p> <p><sup>3</sup> An indication of the suitability of soils for most kinds of field crops. Land capability classes are I through VIII, with VIII being unsuitable for most crop production. Subclasses denoting limiting factors are designated by letters e (erosion), w (water), s (shallow or stony), or c (climate).</p> <p><sup>4</sup> Soils with a high plasticity index have a wide range of moisture content in which the soil performs as a plastic material. Larger PI values (e.g., 20-40) indicate highly plastic soils.</p> <p>in/hr = inches per hour; NP = Not plastic. Salinity is not a factor in any of the soils listed above. —: Either not measured or not applicable. Source: NRCS 1993</p>													

### **145 Fiddymment Fine Sandy Loam, 1–8% Slopes**

This soil covers the extreme southeastern corner of the project site, next to the existing Security Park. Fiddymment is a well drained soil formed from weathered sandstone or siltstone. Native vegetation consists primarily of annual grasses, forbs, and scattered oak trees. Permeability is very slow, and soils above the claypan tend to become waterlogged for short periods after heavy rainfall. Limitations affecting this site for urban development are shallow depth to hardpan and bedrock (which limits trenching activities and landscaping plants), low strength (instability affects road and street design), and very slow permeability (which increases erosion hazards for roads and building pads, especially steep slopes with cut and fill).

### **159 Hicksville Gravelly Loam, 0–2% Slopes, Occasionally Flooded**

Hicksville gravelly loam is found along the southeastern (development Phase 5) and western (development Phase 1) edges of the project site adjacent to Morrison Creek—a low stream terrace. The parent material is alluvium from mixed rock sources. Native vegetation is primarily annual grasses and forbs. Permeability is moderately slow, and channeling and deposition are common along streambanks. The soil is occasionally flooded for brief periods during prolonged, high-intensity storms.

### **181 Natomas Loam, 0–2% Slopes**

This soil type covers the extreme northwestern portion of the project site, slated to be developed first within Phase 1. Natomas loam is deep, well drained, and formed from alluvium on the high level of low terraces. Native vegetation is primarily annual grasses, forbs, and scattered oak trees. As a Capability Class I soil, this unit is ideally suited for most types of field crops, as well as urban and recreational development. Limitations affecting urban uses are low strength and a moderate shrink-swell potential, which can be compensated for by proper design.

### **191 Red Bluff Loam, 0–2% Slopes**

Red Bluff soil covers the western portion of the project site adjacent to Sunrise Boulevard (development Phase 1), as well as a portion of the project site west of Morrison Creek (development Phase 3). Red Bluff unit 191 is very deep, well drained, and formed from alluvium on intermediate terraces—in this instance, part of the ancient channel of the American River. Native vegetation is primarily annual grasses and forbs. Limitations affecting urban uses are low strength and a moderate shrink-swell potential, which can be compensated for by proper design.

### **192 Red Bluff Loam, 2–5% Slopes**

Soil characteristics for Red Bluff 192 are similar to those described for Red Bluff 191 above, except that it is rated as Capability Class III because of the slightly steeper slopes. Red Bluff 192 is found in the southern portion of the project site adjacent to Douglas Road (development Phase 1), adjacent to Morrison Creek and Douglas Road (development Phase 3), and in the southeastern portion of the project site adjacent to and north of Morrison Creek (development Phase 5). The majority of this soil type is located with the area designated as Wetland Preserve.

### **193 Red Bluff-Redding Complex, 0–5% Slopes**

The Red Bluff-Redding complex is located in the northwestern portion of the project site within development Phase 1, and in the southern portion of development Phase 5 adjacent to Morrison Creek (within the area designated as Wetland Preserve). This well-drained soil complex is composed of approximately 45% Red Bluff and 40% Redding soils, and is located on high terraces formed from alluvium. Native vegetation is primarily annual grasses and forbs. This soil is limited for urban development by a cemented pan and low strength, which can be compensated for by proper design.

### **196 Red Bluff-Xerorthents, Dredge Tailings Complex, 2–50% Slopes**

The Red Bluff-Xerorthents soil complex is located in the north central portion of the project site within development Phase 2, and consists of a high terrace that was disturbed during mining activities. This complex consists of approximately 45% Red Bluff soil (undisturbed areas on terraces) and 40% Xerorthents (dredge tailings with slopes of 2–50%). Native vegetation is primarily annual grasses, forbs, and scattered blue oak trees. Soil uses are limited by a high erosion hazard, low strength, and a moderate shrink-swell potential.

### **198 Redding Gravelly Loam, 0–8% Slopes**

This soil covers a portion of the southern project site below Morrison Creek (development Phases 3 and 5 within the area designated as Wetland Preserve) and consists of high terrace and terrace remnants formed from gravelly and cobbly alluvium. Native vegetation is primarily annual grasses and forbs. Permeability is very slow, and soils above the claypan tend to become waterlogged for short periods after heavy rainfall. Soil uses are limited by the high water-erosion hazard, moderate shrink-swell potential, low strength, shallow depth to hardpan, shallow depth to claypan, and very slow permeability.

### **223 Slickens**

Slickens consists of moderately fine and fine textured materials separated from Red Bluff, Redding, and other soil types during gold-dredging activities. This soil type is located in a small area of the southwestern portion of the project site (development Phase 1) as well as another small area in the central portion of development Phase 4. Vegetation consists primarily of scattered, sparse stands of annual grasses, forbs, and chaparral. Permeability is slow, and the surface is frequently flooded during rainy periods in winter and spring. Surface-water ponding requires management for urban uses.

### **245 Xerorthents, Dredge Tailings, 2–50% Slopes**

Approximately 70% of the project site is covered by Xerorthents; therefore, this soil unit would be encountered during all phases of construction. Xerorthents has a high content of gravel and cobbles that were deposited as tailings after most of the fine textured material was washed away during gold-dredging activities. On the project site, dredge tailings form tall piles with steep slopes. Vegetation consists primarily of sparse stands of annual grasses and forbs, and scattered hardwoods. Younger deposits may be bare. In Sacramento, this soil type is used primarily for wildlife habitat, for which it is poorly suited because of the very low available water capacity and the high content of gravel and cobbles that limit plant growth. In some areas of the county it is used for recreational development; it may be used for urban development if the tailing piles are leveled (consistent with the City General Plan).

## **MINERAL RESOURCES**

As discussed above, the project site and the surrounding vicinity are located in an ancient channel of the American River. Over many thousands of years, weathering eroded various auriferous (gold-bearing) formations in the Sierra Nevada, thus allowing gold flakes, nuggets, and gold-bearing rocks to be carried along in glacial meltwater and in river channels. Depending on the volume of water and the rate of flow, the gold was eventually deposited on the surfaces of ancient river channels. Auriferous rocks eventually became deposited at the mouths of rivers as alluvial fans. Areas around the town of Folsom, Prairie City, and Rancho Cordova, where the American River emptied into the Sacramento Valley, eventually became well known locations for gold miners.

Within weeks after gold was found at Sutter's Mill on the South Fork of the American River in 1848, Mormon Island (now buried underneath Folsom Lake) was being mined. Subsequent gold discoveries and mining operations developed at Beal's Bar, Rattlesnake Bar, Negro Bar, Whiskey Bar, and Prairie City. When the Natomas Water and Mining Company began supplying water to the area around Prairie City in 1853, miners began staking claims along the company's canal. When those claims were exhausted, the Natomas Company (as it

was later called) begin dredging the nearby ancient American River deposits. Dredging operations on the project site occurred between 1915 and 1962. Today, as mentioned above, dredge tailings cover approximately 70% of the project site. (See Section 3.9, “Cultural Resources,” for a more detailed discussion of historical mining operations.)

The piles of cobbles deposited during dredging operations have proved to be a valuable source of sand and gravel. These aggregate deposits were addressed in the County General Plan as the county’s “primary remaining aggregate deposits,” and were also foreseen as being actively mined by 2004. The City General Plan also accounts for these areas as being actively mined before development. Currently, Teichert Aggregates, Inc. (Teichert) holds a County Conditional Use Permit (No. 98-UPB-0503) for surface mining of this resource on 180 acres of the eastern portion of the project site (City of Rancho Cordova 2004) (Exhibit 2-18). In June 2005, the City of Rancho Cordova (City) approved a second Conditional Use Permit application by Teichert to remove portions of the dredge tailings on the western portion of the project site in the proposed Phase 1 development area. In the future, the City expects to receive an individual Implementation Permit application from Granite Construction Company to remove additional dredge tailings from the central portion of the Rio del Oro project site. The proposed removal of additional dredge tailings will be subject to separate environmental review (not part of this project).

Sand and gravel mined in Sacramento County and in Rancho Cordova is used for construction. Construction aggregates are an important building material used in Portland cement concrete, asphalt concrete, plaster, and stucco, and as a road base material. In terms of volume and price, there is no economically feasible substitute for aggregate products in the construction industry. However, the City and County General Plans also recognize that aggregate mining is an interim land use rather than a final use, and recognizes the importance of balancing aggregate-mining needs with those of urban development.

In compliance with the California Surface Mining and Reclamation Act (SMARA), CDMG has established the classification system shown in Table 3.7-4 to denote both the location and significance of key extractive resources.

<b>Table 3.7-4 California Division of Mines and Geology Mineral Land Classification System</b>	
Classification	Description
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated from existing data
MRZ-4	Areas where available data are inadequate for placement in any other mineral resource zone
Note: MRZ = Mineral Resource Zone Source: Dupras 1988	

Under SMARA, the State Mining and Geology Board may designate certain mineral deposits as being regionally significant to satisfy future needs. The board’s decision to designate an area is based on a classification report prepared by CDMG and on input from agencies and the public. The project site lies within the designated Sacramento-Fairfield Production-Consumption Region, which includes all designated lands within the marketing area of the active aggregate operations supplying the Sacramento-Fairfield urban center. The project site is classified as MRZ-2, an area containing significant mineral deposits, including Portland Cement concrete-grade aggregate (sand and gravel) (Dupras 1988).

## **3.7.2 REGULATORY FRAMEWORK**

### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **Federal Earthquake Hazards Reduction Act**

In October 1997, the U.S. Congress passed the Earthquake Hazards Reduction Act to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through postearthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and USGS.

### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **California Building Standards Code**

The State of California provides minimum standard for building design through the California Building Standards Code (California Code of Regulations, Title 24). Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls. The CBC also applies to building design and construction in the state and is based on the federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The CBC has been modified for California conditions with numerous more detailed and/or more stringent regulations.

The state earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control, and construction on unstable soils, such as expansive soils and liquefaction areas.

#### **California Seismic Hazards Mapping Act**

The California Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690–2699.6) addresses seismic hazards other than surface rupture, such as liquefaction and induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

## **Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sections 2621–2630) was passed by the California Legislature in 1972 to mitigate the hazard of surface faulting to structures. The act’s main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

## **California Surface Mining and Reclamation Act**

SMARA (Public Resources Code Section 2710 et seq.) was enacted by the California Legislature in 1975 to regulate activities related to mineral resource extraction. The act requires the prevention of adverse environmental effects caused by mining, the reclamation of mined lands for alternative land uses, and the elimination of hazards to public health and safety from the effects of mining activities. At the same time, SMARA encourages both the conservation and the production of extractive mineral resources, requiring the State Geologist to identify and attach levels of significance to the state’s varied extractive resource deposits. Under SMARA, the mining industry in California must plan adequately for the reclamation of mined sites for beneficial uses and provide financial assurances to guarantee that the approved reclamation will actually be implemented. The requirements of SMARA must be implemented by the local lead agency with permitting responsibility for the proposed mining project.

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES**

### **Rancho Cordova General Plan**

Goals and policies of the City General Plan relating to geology, soils, and mineral resources that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### **Sacramento County Zoning Code Title II, Article 4, Surface Mining (Adopted by the City of Rancho Cordova)**

The County has adopted its own SMARA ordinance, which is modeled after the state’s SMARA guidelines (see above). The County’s SMARA ordinance is designed to protect mineral resources from incompatible land uses, to manage the mineral resources, to assure the county of an adequate supply of these resources with due consideration for the environment, and to provide for the restoration of mined lands for future use. A Conditional Use Permit is required for surface-mining operations in Sacramento County. The City adopted this ordinance upon incorporation in 2003.

### **Sacramento County Grading Ordinance (Adopted by the City of Rancho Cordova)**

The County has enacted a Land Grading and Erosion Control Ordinance (County Code, Title 16, Chapter 16.44) for the purpose of minimizing damage to surrounding properties and public rights-of-way; limiting degradation of the water quality of watercourses; and curbing the disruption of drainage system flow caused by the activities of clearing, grubbing, grading, filing, and excavating land. The ordinance includes administrative procedures, minimum standards of review, and implementation and enforcement procedures for the control of erosion and sedimentation that are directly related to land-grading activities. The City adopted this ordinance upon incorporation in 2003.

### 3.7.3 ENVIRONMENTAL CONSEQUENCES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, a geology, soils, or mineral resources impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ result in substantial erosion or unstable soil conditions from excavation grading or fill;
- ▶ expose people or property to seismic hazards including fault rupture on active faults, seismic ground shaking, or seismically induced ground failure, including liquefaction;
- ▶ expose persons or property to geologic hazards such as landslides, land subsidence, or expansive soils; or
- ▶ result in the loss of availability of known mineral resources that would be of future value to the region.

#### ANALYSIS METHODOLOGY

Effects associated with geology, soils, and mineral resources that could result from project construction and operational activities were evaluated qualitatively based on expected construction practices; materials, locations, and duration of project construction and related activities; a field visit; and a review of published geologic literature including maps, books, and journal articles.

#### IMPACT ANALYSIS

##### Program Level Impacts and Mitigation Measures

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

IMPACT 3.7-1
-----------------

**Potential Temporary, Short-Term Construction-Related Erosion.** *Construction activities during project implementation would involve extensive grading and movement of earth, which could expose soils to erosion and result in the loss of topsoil.*

PP, HD

Project implementation would include substantial construction activity over approximately 3,300 acres, including soil removal, trenching, pipe installation, fabrication of concrete channels, grading, and revegetation. Construction activities would result in the temporary disturbance of soil and would expose disturbed areas to winter storm events. Rain of sufficient intensity could dislodge soil particles from the soil surface. Once particles are dislodged and the storm is large enough to generate runoff, localized erosion could occur. In addition, soil disturbance during the summer months could result in loss of topsoil because of wind erosion. A **direct, potentially significant** impact from soil erosion could result from construction activities associated with the project. **No indirect** impacts would result. *[Similar]*

IM

Impacts under the Impact Minimization Alternative would be less than those under the Proposed Project Alternative because approximately 500 fewer acres would be disturbed. However, the same type of construction-related erosion impacts would occur, leading to a **direct, potentially significant** impact. **No indirect** impacts would result. *[Lesser]*

NF Impacts under the No Federal Action Alternative would be less than those under the Proposed Project Alternative because approximately 365 fewer acres would be disturbed. However, the same type of construction-related erosion impacts would occur, leading to a **direct, potentially significant** impact. **No indirect** impacts would result. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Reclamation activities associated with closure of mining operations would result in less-than-significant impacts on erosion because these activities would be subject to the City Grading and Erosion Control Ordinance.

Because no new construction would occur under the No Project Alternative, **no direct or indirect** project-related impacts would occur. *[Lesser]*

### Mitigation Measure 3.7-1: Prepare and Implement a Grading and Erosion Control Plan.

PP, HD, IM, NF A grading and erosion control plan shall be prepared by a California Registered Civil Engineer retained by the project applicant(s) for all project phases. The grading and erosion control plan shall be submitted to the City Public Works Department before issuance of grading permits for all new development within the project site. The plan shall be consistent with the City’s Land Grading and Erosion Control Ordinance as well as the City’s National Pollutant Discharge Elimination System (NPDES) permit and shall include the site-specific grading associated with development for all project phases. The plan shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, a description of measures designed to control dust and stabilize the construction-site road and entrance, and a description of the location and methods of storage and disposal of construction materials. Erosion and sediment control measures could include the use of detention basins, berms, swales, wattles, and silt fencing. Stabilization of construction entrances to minimize trackout (control dust) is commonly achieved by installing filter fabric and crushed rock to a depth of approximately 1 foot. The project applicant(s) shall ensure that the construction contractor is responsible for securing a source of transportation and deposition of excavated materials.

Implementation of Mitigation Measure 3.4-3 (discussed in Section 3.4, “Drainage, Hydrology, and Water Quality”) will help reduce erosion-related impacts.

**Timing:** Before the issuance of grading permits for all project phases, and throughout project construction.

**Enforcement:** City of Rancho Cordova Public Works, Building and Safety, and Planning Departments.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.7-1 listed above along with Mitigation Measure 3.4-3 (discussed in Section 3.4, “Drainage, Hydrology, and Water Quality”), would reduce potentially significant temporary and short-term construction-related erosion impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.7-2**

**Potential Damage to Structures from Seismic Activity and Related Geologic Hazards.** *The project site is located in an area of low seismic activity and structures at the site would be designed in accordance with CBC standards.*

PP, HD, IM,  
NF

The project site is not located in a known fault zone, no faults known to be active within Holocene time are located within 30 miles of the project site; therefore, the potential for surface rupture to cause damage to proposed structures is negligible. Although potential damage to people or structures from seismic ground shaking could be a concern, compliance with the CBC would require the site's seismic-design response spectrum to be established and incorporated into the design of all new residences and buildings. Roadways, utilities, and structures would be designed to withstand seismic forces per CBC requirements for Seismic Zone 3. Furthermore, potential hazards associated with liquefaction would be negligible because the project site has a fairly deep groundwater table, soils at the project site are relatively stable, and potential sources of seismic activity are a relatively long distance away. The project site would have a relatively flat topography after the dredge tailings were removed, and it is not located in or near a landslide hazard area. Potential damage to structures from seismic activity and related geologic hazards would be a **less-than-significant, direct** impact. **No indirect** impacts would result. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Because sources of seismic activity are a relatively long distance away, potential impacts on mining operations would be less than significant.

Because no new development-related construction would occur under the No Project Alternative, **no direct** or **indirect** project-related impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.7-3**

**Potential Damage to Structures from Construction on Unstable Soils.** *Portions of the project site are underlain by soils that have a moderate to high potential for expansion when wet, or are underlain by piles of unstable cobbles and slickens soils from dredge mining activities. Construction in any of these soils may cause foundation movements that can cause damage to overlying structures.*

PP

Expansive soils shrink and swell as a result of moisture change. These volume changes can result in damage over time to building foundations, underground utilities, and other subsurface facilities if they are not designed and constructed appropriately to resist the changing soil conditions. Volume changes of expansive soils also can result in the consolidation of soft clays following the lowering of the water table or the placement of fill. Placement of buildings on unstable soils can result in structural failure.

Portions of the project site are underlain by clayey soils with a plasticity index of 15–30%, which indicates a moderate to high expansion potential. Soil expansion could pose problems for foundation design. Furthermore, these soils could be subjected to volume changes during seasonal fluctuations in moisture content, which could adversely affect interior slabs-on-grade and landscaping hardscapes.

In addition, approximately 70% of the project site is underlain by cobbles and slickens soils from dredge mining activities. Although the aboveground portions of these dredge tailings would be removed as part of mining activities (not part of this project) or as part of project grading

activities, the belowground portions of these soils would remain. Cobbles and slickens soils are generally unstable; therefore, construction in these areas could result in structural failure.

This would be a **potentially significant, indirect** impact. **No direct** impacts would result.

HD Construction of buildings and roadways would occur on the same amount of land under the High Density Alternative as under the Proposed Project Alternative, with a higher density of dwelling units constructed on that same acreage. Impacts would likely occur at a higher level than under the Proposed Project Alternative because more structures would be constructed on soils with moderate to high expansion potential. This would be a **potentially significant, indirect** impact. **No direct** impacts would result. *[Greater]*

IM Impacts under the Impact Minimization Alternative would be less than those under the Proposed Project Alternative because building and roadway construction would occur on approximately 500 fewer acres. However, development would still occur in areas with potentially expansive soils; thus, this would be a **potentially significant, indirect** impact. **No direct** impacts would result. *[Lesser]*

NF Impacts under the No Federal Action Alternative would be less than those under the Proposed Project Alternative because building and roadway construction would occur on approximately 365 fewer acres. However, development would still occur in areas with potentially expansive soils; thus, this would be a **potentially significant, indirect** impact. **No direct** impacts would result. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Because mining activities would not involve construction of buildings, there would be no impact from the effects of expansive soil.

Because no new development-related construction would take place under the No Project Alternative, no structures would be subject to effects from expansive soils; thus, **no direct or indirect** project-related impacts would result. *[Lesser]*

#### Mitigation Measure 3.7-3a: Prepare a Geotechnical Study and Implement All Applicable Recommendations.

PP, HD, IM, Before the approval of grading plans for all project phases, a final geotechnical subsurface  
NF investigation report shall be prepared by the project applicant(s) for the proposed development and shall be submitted to the City. The final geotechnical engineering report shall address and make recommendations on the following:

- ▶ site preparation;
- ▶ appropriate sources and types of fill;
- ▶ potential need for soil amendments;
- ▶ road, pavement, and parking areas;
- ▶ structural foundations, including retaining wall design;
- ▶ grading practices;
- ▶ erosion/winterization;
- ▶ special problems discovered on-site (e.g., groundwater and expansive/unstable soils); and
- ▶ slope stability.

The geotechnical investigation shall include subsurface testing of soil and groundwater conditions and determine appropriate foundation designs that are consistent with the CBC. If the soils report indicates the presence of critically expansive soils or other soil problems that would lead to structural defect if not corrected, additional investigations may be required for subdivisions before building permits are issued. This shall be so noted on the project grading plans. Recommendations contained in the geotechnical engineering report shall be noted on the grading plans and implemented as appropriate before the issuance of building permits. Design and construction of all new development in all phases of the project shall be in accordance with the CBC and the City Land Grading and Erosion Control Ordinance. It is the responsibility of the project applicant(s) to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

**Timing:** Before the approval of grading plans for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

NP No mitigation measures are required.

**Mitigation Measure 3.7-3b: Ensure On-Site Monitoring by a Geotechnical Engineer.**

PP, HD, IM, NF All earthwork shall be monitored by a geotechnical engineer retained by the project applicant(s) for all project phases. The geotechnical engineer shall provide oversight during all excavation, placement of fill, and disposal of materials removed from and deposited on the subject site and other sites. Before export/import of any soil to/from an off-site location, the project applicant(s) shall obtain a grading permit from the City Public Works Department.

**Timing:** Before issuance of grading permit and during construction activities for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

NP No mitigation measures are required.

With implementation of Mitigation Measures 3.7-3a and 3.7-3b, buildings and structures would incorporate design recommendations of a geotechnical engineer and on-site monitoring by a geotechnical engineer would provide for appropriate correction in grading activities if unexpected pockets of expansive soils were encountered. Therefore, implementation of these mitigation measures would reduce the potentially significant impact of possible damage to structures from construction on expansive soils under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.7-4**

**Loss of Mineral Resources.** *The project site is located within the Sacramento-Fairfield Production-Consumption Region designated by CDMG and is classified as MRZ-2, an area containing significant mineral deposits (including Portland Cement concrete-grade aggregate).*

PP, HD, IM, NF The project site is located within the Sacramento-Fairfield Production-Consumption Region, a mineral resources area designated by CDMG as regionally significant to satisfy future needs. Approximately 70% of the surface area at the project site is covered with aggregate mineral resources, including Portland Cement concrete-grade aggregate. As discussed in Section 3.0, "Approach to the Environmental Analysis," mining activities are currently being conducted by Teichert on the eastern portion of the project site. A Mitigated Negative Declaration was prepared by the City in May 2004 on Teichert's request to expand its existing Conditional Use Permit (No. 98-UPB-0503) to include an additional 180 acres on the Rio del Oro project site

(Exhibit 2-18). In June 2005, the City approved Teichert's request for a second Conditional Use Permit (Grantline West Mining Plan) in the western portion of the project site. This Conditional Use Permit would remove a portion of the dredge tailings on approximately 583 acres in the central portion of development Phase 1 (Exhibit 2-18). An Implementation Permit application to remove the dredge tailings in the central portion of the project site is expected in the future (Exhibit 2-18). The City would prepare another, separate environmental document to assess potential impacts from this third application. This analysis assumes that this Implementation Permit application would be approved by the City, and that much of the dredge tailings would be removed before project-related construction activities begin. At the completion of project buildout, aggregate resources below the ground surface would no longer be available for mining activities. However, the City General Plan provides for a balance of land uses that includes both mining and mixed-use development. Because a substantial amount of the site's aggregate resources would be recovered and utilized, project implementation would not result in a significant loss of mineral resources, and thus would result in a **less-than-significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City.

Under the No Project Alternative, mineral resources would continue to be removed as a result of the mining activities at the project site, resulting in an **indirect, beneficial** impact. **No direct or indirect** impacts would occur. *[Similar]*

Mitigation Measure: No mitigation measures are required.

### Project Level (Phase 1) Impacts and Mitigation Measures

#### IMPACT 3.7-5

**Potential Temporary Short-Term Construction-Related Erosion.** *Construction activities during development Phase 1 would involve extensive grading and movement of earth, which could expose soils to erosion and result in the loss of topsoil.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.7-1 for further discussion of this impact.

Mitigation Measure 3.7-1 and Mitigation Measure 3.4-3 (contained in Section 3.4, "Drainage, Hydrology, and Water Quality"), would require the construction contractor to install erosion and sediment control measures. Therefore, implementation of these mitigation measures would reduce the significant impact associated with potential temporary, short-term construction-related erosion under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

#### IMPACT 3.7-6

**Potential Damage to Structures from Seismic Activity and Related Ground Failure.** *The Phase 1 development area is located in an area of low seismic activity and structures at the site would be designed in accordance with CBC standards.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.7-2 for further discussion of this impact.

**IMPACT  
3.7-7**

**Potential Damage to Structures from Construction on Expansive Soils.** *The Phase 1 development area is underlain by soils that have a moderate to high potential for expansion when wet. Expansive soils may cause differential and cyclical foundation movements that can cause damage and/or distress to overlying structures.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.7-3 for further discussion of this impact.

With implementation of Mitigation Measures 3.7-3a and 3.7-3b, buildings and structures would incorporate design recommendations of a geotechnical engineer and on-site monitoring by a geotechnical engineer would provide for appropriate correction in grading activities if unexpected pockets of expansive soils were encountered. Therefore, implementation of these mitigation measures would reduce the potentially significant impact of possible damage to structures from construction on expansive soils under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.7-8**

**Loss of Mineral Resources.** *The Phase 1 development area is within the Sacramento-Fairfield Production-Consumption Region designated by CDMG, and is classified as MRZ-2, an area containing significant mineral deposits (including Portland Cement concrete-grade aggregate).*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.7-4 for further discussion of this impact.

### **CUMULATIVE IMPACTS**

As discussed above, the Rio del Oro project site would be exposed to potentially significant impacts from construction-related soil erosion and construction on expansive soils. However, these impacts would be reduced to less-than-significant levels through completion of site-specific geotechnical studies, implementation of construction and design measures developed in response to the studies, and implementation of a SWPPP and BMPs under the statewide NPDES permit. Each of the related projects must individually meet building code requirements. Projects that disturb 1 acre or more of land must also file a Notice of Intent and prepare and implement a SWPPP and related BMPs pursuant to the statewide NPDES stormwater permit for general construction activity (discussed in Section 3.4, “Drainage, Hydrology, and Water Quality”). Therefore, no additive effect would result from the combination of the related projects and the Rio del Oro project. Implementation of the project, therefore, would not create additional facilities under increased risk of hazards and would not result in any cumulatively considerable incremental contributions to any significant cumulative impacts.

All of the related projects in the Easton Specific Plan area occur in areas of potential mineral aggregate deposits (dredge tailings) classified as MRZ-2 by CDMG. This area covers approximately 3,000 acres. Construction of buildings, roads, and parking areas in the Easton Specific Plan area could permanently remove access, or erect barriers to access, to the entire 3,000-acre mineable area. This is therefore considered a significant cumulative impact. Approximately 2,600 acres of the Rio del Oro project site are also classified as MRZ-2 and contain the same mineral resources (dredge tailings). However, most of the 2,600 acres of aggregate resources at the Rio del Oro project site will be recovered through mining operations, and therefore the project would not cumulatively contribute to a loss of regionally and locally valuable mineral resources.

### **3.7.4 RESIDUAL SIGNIFICANT IMPACTS**

With implementation of the mitigation measures listed above, project implementation would not result in any residual significant impacts related to geology, seismicity, soils, or mineral resources.

## **3.8 PALEONTOLOGICAL RESOURCES**

### **3.8.1 AFFECTED ENVIRONMENT**

Paleontological resources (fossils) are the remains or traces of prehistoric animals and plants. This section assesses the potential that earth-moving activities associated with development at the project site could adversely affect scientifically important fossil remains. The analysis presented in this section conforms to Society of Vertebrate Paleontology criteria.

#### **PHYSIOGRAPHIC ENVIRONMENT**

As discussed in Section 3.7, “Geology, Soils, and Mineral Resources,” the project site is located on the southeastern side of the Sacramento Valley. The Sacramento Valley and the San Joaquin Valley comprise the Great Valley of California. The Great Valley geomorphic province is located between the Sierra Nevada geomorphic province on the east and the Coast Range geomorphic province on the west.

The Great Valley is composed of thousands of feet of sedimentary deposits that have undergone periods of subsidence and uplift over millions of years. During the Jurassic and Cretaceous periods of the Mesozoic era, the Great Valley existed in the form of an ancient ocean. By the end of the Mesozoic era, the northern portion of the Great Valley began to fill with sediment as tectonic forces caused uplift of the basin. By the time of the Miocene epoch, approximately 24 million years ago, sediments deposited in the Sacramento Valley were mostly of terrestrial origin.

Most of the surface of the Great Valley is covered with Recent (Holocene, i.e., 10,000 years Before Present [B.P.] to present day) and Pleistocene (i.e., 10,000–1,800,000 years B.P.) alluvium. This alluvium is composed of sediments from the Sierra Nevada to the east and the Coast Range to the west that were carried by water and deposited on the valley floor. Siltstone, claystone, and sandstone are the primary types of sedimentary deposits.

The project area is located entirely within Sacramento County and within the U.S. Geological Survey (USGS) Buffalo Creek 7.5-Minute Quadrangle (mapped at 1:24,000 scale).

#### **REGIONAL GEOLOGIC SETTING**

Geologic history and conditions are relevant to the evaluation of paleontological resources because they influence the type of fossils that may be found (i.e., aquatic vs. terrestrial organisms) and the probability that any prehistoric remains would be subject to fossilization rather than normal decay. The depositional history of the Sacramento Valley during the late Quaternary included several cycles related to fluctuations in regional and global climate that caused alternating periods of deposition followed by periods of subsidence and erosion. Thus, the Sacramento Valley during the Pleistocene consisted of stages of wetlands and floodplain creation as tidewaters rose in the valley from the west, areas of erosion when tidewaters receded, and alluvial fan deposition from streams emanating from the adjacent mountain ranges (Atwater 1982).

#### **LOCAL GEOLOGIC SETTING**

Wagner et al. (1987) and Bartow and Helley (1979) have mapped approximately 70% of the project site as mine and dredge tailings (t), and the remainder as the Pliocene-age (approximately 5 million years B.P.) Laguna Formation (Tl). The Laguna Formation consists of reddish to yellowish brown silt to sandy silt and clay with minor lenticular gravel beds that was deposited on broad floodplains by meandering, slow-moving streams. These sedimentary deposits are of granitic Sierra Nevada basement complex origin, and were laid down before the last upthrust and tilting of the Sierra Nevada. Olmsted and Davis (1961) indicated that the Laguna Formation probably extends downward no more than 500 feet in the project site area before metamorphosed igneous basement rocks are encountered. Gravel deposits associated with the Laguna Formation (called the Arroyo Seco gravel by

Olmsted and Davis [1961]) “contain abundant cobbles of quartz and metamorphic rocks in a red silty or sandy matrix,” and locally may be more than 50 feet thick. It is these gravel deposits, along an ancient channel of the American River, that were dredged for gold at the project site.

A small portion of the remaining project site, on both sides immediately adjacent to Morrison Creek, contains Holocene-age surficial deposits (Qu), underlain by the Laguna Formation.

## **PALEONTOLOGICAL RESOURCE INVENTORY METHODS**

A stratigraphic inventory and paleontological resource inventory were completed to develop a baseline paleontological resource inventory of the project site and surrounding area by rock unit, and to assess the potential paleontological productivity of each rock unit. Research methods included a review of published and unpublished literature and a cursory field survey. These tasks complied with Society of Vertebrate Paleontology (1995) guidelines.

### **Stratigraphic Inventory**

Geologic maps and reports covering the geology of the project site and surrounding study area were reviewed to determine the exposed rock units and to delineate their respective distributions in the project study area.

### **Paleontological Resource Inventory**

Published and unpublished geological and paleontological literature was reviewed to document the number and locations of previously recorded fossil sites from rock units exposed in and near the project site and the surrounding region, as well as the types of fossil remains each rock unit has produced. The literature review was supplemented by an archival search conducted at the University of California Museum of Paleontology (UCMP) in Berkeley, California, on February 25, 2005.

### **Field Survey**

A field reconnaissance was conducted on July 29, 2004, to document the presence of any previously unrecorded fossil sites and of strata that might contain fossil remains. The ground surface was generally covered with native vegetation and was not visible. Approximately 70% of the project site was covered with piles of cobbles deposited as a result of dredger gold mining operations. No exposures of potentially fossiliferous strata were observed in the areas surveyed.

## **PALEONTOLOGICAL RESOURCE ASSESSMENT CRITERIA**

The potential paleontological importance of the project site can be assessed by identifying the paleontological importance of exposed rock units within the project site. Because the aerial distribution of a rock unit can be easily delineated on a topographic map, this method is conducive to delineating parts of the project site that are of higher and lower sensitivity for paleontological resources.

A paleontologically important rock unit is one that has a high rating for potential paleontological productivity and is known to have produced unique, scientifically important fossils. The potential paleontological productivity rating of a rock unit exposed at the project site refers to the abundance and densities of fossil specimens and/or previously recorded fossil sites in exposures of the unit in or near the project site. If exposures of a specific rock unit at the project site yield fossils, they are most likely to yield fossil remains representing particular species in quantities or densities similar to those previously recorded from the unit near the project site.

An individual vertebrate fossil specimen may be considered unique or significant if it is identifiable and well preserved, and it meets at least one of the following criteria:

- ▶ is a type specimen (i.e., the individual from which a species or subspecies has been described);
- ▶ is a member of a rare species;
- ▶ is a species that is part of a diverse assemblage,
- ▶ is a skeletal element different from, or a specimen more complete than, those now available for its species; or
- ▶ is a complete specimen.

For example, identifiable vertebrate marine and terrestrial fossils are generally considered scientifically important because they are relatively rare. The value or importance of different fossil groups varies, depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Marine invertebrates are generally common, the fossil record is well developed and well documented, and they would generally not be considered a unique paleontological resource.

The following tasks were completed to establish the paleontological importance of each rock unit exposed at or near the project site:

- ▶ The potential paleontological productivity of each rock unit was assessed, based on the density of fossil remains previously documented within the rock unit.
- ▶ The potential for a rock unit exposed at the project site to contain a unique paleontological resource was considered.

## **RESOURCE INVENTORY RESULTS**

### **Stratigraphic Inventory**

Regional and local surficial geologic mapping and correlation of the various geologic units in the vicinity of the project site has been provided at a scale of 1:250,000 by Wagner et al. (1987) and at a scale of 1:62,500 by Bartow and Helley (1979).

### **Paleontological Resource Inventory and Assessment by Rock Unit**

Vertebrate mammalian fossils have proved helpful in determining the relative age of alluvial fan sedimentary deposits (Louderback 1951, Savage 1951, Albright 2000). Mammalian inhabitants of the Pleistocene alluvial fan and floodplain included mammoths, horses, mastodons, camels, ground sloths, and pronghorns.

The Pleistocene epoch, known as the “great ice age,” began approximately 1.8 million years ago. Surveys of late Cenozoic land mammal fossils in northern California have been provided by Hay (1927), Stirton (1939), Savage (1951), Lundelius et al. (1983), and Jefferson (1991a, 1991b). On the basis of his survey of vertebrate fauna from the nonmarine late Cenozoic deposits of the San Francisco Bay region, Savage (1951) concluded that two major divisions of Pleistocene-age fossils could be recognized: the Irvingtonian (older Pleistocene fauna) and the Rancholabrean (younger Pleistocene and Holocene fauna). These two divisions of Quaternary Cenozoic vertebrate fossils are widely recognized today in the field of paleontology. The age of the later Pleistocene, Rancholabrean fauna was based on the presence of bison and on the presence of many mammalian species that are inhabitants of the same area today. In addition to bison, larger land mammals identified as part of the Rancholabrean fauna include mammoths, mastodons, camels, horses, and ground sloths.

### ***Laguna Formation***

During the Pliocene epoch (approximately 5 million to 1.8 million years B.P.), sediments of which are represented by the Laguna Formation at the project site, there was an enormous spread of grasslands and savannas and, in general, there were more large mammals in the Pliocene than there are today. One of the better known deposits of Pliocene fossils in California has been found within the San Timoteo Badlands in Riverside County.

Albright (2000) described 42 fossil taxa recovered during a study of the badlands, where he showed that small mammals can be effectively used to correlate biostratigraphy where radioisotopic dates are unobtainable. Other California Pliocene vertebrate fossil localities such as the Kettleman Hills and the Coso Range Wilderness include many of the same species found in Pleistocene deposits, including ground sloths, pronghorns, horses, camels, and mastodonts (Shultz 1937, Woodring et al. 1940). A search of published literature uncovered only one reference to a Pliocene-age vertebrate fossil specimen from the Laguna Formation in Northern California: Stirton (1939) refers to a Pliocene-age fossil specimen of a horse tooth found in clayey silt, probably of the Laguna Formation although not definitely identified as such, in a well near the town of Galt, Sacramento County.

### ***Dredge Tailings***

According to information provided by the project applicant(s), the piles of dredge tailings deposited at the project site as a result of gold mining activities extend up to 80 feet deep below the ground surface. Because of the nature of dredge mining activities, any fossil specimens that may have been preserved in the underlying Laguna Formation soils would have been destroyed at the time of the mining operations, and thus the existing dredge tailings would not be expected to contain fossils.

### ***Holocene Alluvium***

By definition, to be considered a fossil, a specimen must be more than 10,000 years old. Because sediments surrounding Morrison Creek are less than 10,000 years old, these sediments would not contain paleontological resources.

### ***Records Search***

Results of a paleontological records search at the UCMP (2005) indicated no recorded fossil sites within a 5-mile radius of the project site. Although the UCMP database indicates several officially recorded vertebrate fossils from six locations in Sacramento County, all have yielded Rancholabrean fossils from the Pleistocene-age (approximately 1.8 million years B.P.) Riverbank Formation. In addition, fossils were recovered from construction activities at Arco Arena (Hilton et al. 2000) and during Sacramento Municipal Utility District trenching activities in Elk Grove (Kolber 2004), which also yielded Rancholabrean fossils from the Riverbank Formation.

## **3.8.2 REGULATORY FRAMEWORK**

### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no federal plans, policies, regulations, and laws related to paleontological resources that apply to the proposed project or alternatives under consideration.

### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

No state or local agencies have specific jurisdiction over paleontological resources on private lands. No state agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earthmoving on state or private land at a project site.

### **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no regional and local plans, policies, regulations, or laws related to paleontological resources that apply to the proposed project or alternatives under consideration.

## **SOCIETY OF VERTEBRATE PALEONTOLOGY GUIDELINES**

The Society of Vertebrate Paleontology (1995, 1996), a national scientific organization of professional vertebrate paleontologists, has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional paleontologists in the nation adhere to the Society of Vertebrate Paleontology assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

### **3.8.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the State CEQA Guidelines, viewed in light of the Society of Vertebrate Paleontology guidelines described below, significant adverse environmental impacts on paleontological resources would result if the proposed project or alternatives under consideration would directly or indirectly destroy a unique paleontological resource or site. For the purposes of this DEIR/DEIS, a unique resource or site is one that is considered significant under the following Society of Vertebrate Paleontology criteria.

As described above under “Paleontological Resource Assessment Criteria,” an individual vertebrate fossil specimen may be considered unique or significant if it is identifiable and well preserved, and it meets at least one of the following criteria:

- ▶ is a type specimen (i.e., the individual from which a species or subspecies has been described);
- ▶ is a member of a rare species;
- ▶ is a species that is part of a diverse assemblage;
- ▶ is a skeletal element different from, or a specimen more complete than, those now available for its species; or
- ▶ is a complete specimen.

The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Marine invertebrates are generally common; the fossil record is well developed and well documented, and they would generally not be considered a unique paleontological resource. Identifiable vertebrate marine and terrestrial fossils are generally considered scientifically important because they are relatively rare.

#### **ANALYSIS METHODOLOGY**

In its standard guidelines for assessment and mitigation of adverse impacts on paleontological resources, the Society of Vertebrate Paleontology (1995) established three categories of sensitivity for paleontological resources: high, low, and undetermined. Areas where fossils have been previously found are considered to have a high sensitivity and a high potential to produce fossils. In areas of high sensitivity that are likely to yield unique paleontological resources, full-time monitoring is typically recommended during any project-related ground disturbance. Areas that are not sedimentary in origin and that have not been known to produce fossils in the past typically are considered to have low sensitivity and monitoring is usually not needed during project construction. Areas that have not had any previous paleontological resource surveys or fossil finds are considered to be of undetermined sensitivity until surveys and mapping are performed to determine their sensitivity. After reconnaissance surveys, observation of exposed cuts, and possibly subsurface testing, a qualified paleontologist can determine whether the area should be categorized as having high or low sensitivity. In keeping with the significance criteria of the Society of Vertebrate Paleontology (1995), all vertebrate fossils are generally categorized as being of potentially significant scientific value.

The significance of potential adverse impacts on paleontological resources under CEQA, resulting from project-related activities at the project site, was determined using the criteria discussed above.

## IMPACT ANALYSIS

### Program Level Impacts and Mitigation Measures

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, or lesser).

#### IMPACT 3.8-1

**Potential Disturbance of Previously Unknown Paleontological Resources During Earthmoving Activities.** *Construction activities could disturb previously unknown paleontological resources at the project site.*

PP, HD, IM,  
NF

Sediments referable to the Laguna Formation are generally devoid of significant vertebrate fossils, and no previously recorded fossil sites from this formation are known from either the project site or the surrounding area. Furthermore, approximately 70% of the project site is covered with piles of dredge tailings, extending between 80 and 120 feet below the ground surface. Because of the nature of mining operations, this area would not contain fossils. Therefore, it is not likely that unique paleontological resources would be found in local sediments. Thus, geologic units at the project site may be considered to have a low paleontological sensitivity, and a **direct, less-than-significant** impact on previously unknown paleontological resources would result from construction activities associated with the project. **No indirect** impact would result. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would be limited to the piles of existing dredge tailings, which would not contain paleontological resources.

Because the project would not be implemented under the No Project Alternative, no development-related construction activities would occur; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

### Project Level (Phase 1) Impacts and Mitigation Measures

#### IMPACT 3.8-2

**Potential Disturbance of Previously Unknown Paleontological Resources During Earthmoving Activities.** *Construction activities within the Phase 1 development area could disturb previously unknown paleontological resources.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.8-1 for further discussion of this impact.

### Cumulative Impacts

Generally, the discovery of fossils, and the subsequent opportunity for data collection and study, is a rare event that results from excavation and grading activities associated with development. The probability of encountering

fossils on any project site depends primarily on the type of rock formation underlying the site. As described above, the project site is located within a rock formation that is not likely to yield significant paleontological resources, and thus project implementation would not contribute cumulatively to any regional loss of resources. Development projects are separate events that occur in various locations and are approved and implemented on a case-by-case basis. Because of the generally low probability that development projects would encounter paleontological resources, implementation of the related projects and other development within the region is not considered to result in significant cumulative impacts on paleontological resources; therefore, the project would not contribute to a cumulatively considerable impact.

### **3.8.4 RESIDUAL SIGNIFICANT IMPACTS**

All impacts associated with paleontological resources are considered less than significant. Therefore, there are no residual significant impacts.

## 3.9 CULTURAL RESOURCES

### 3.9.1 AFFECTED ENVIRONMENT

#### ARCHAEOLOGICAL AND ETHNOGRAPHIC SETTING

The earliest well-documented entry and spread of humans into California occurred at the beginning of the Paleo-Indian Period (10,000–6,000 years Before Present [B.P.]). Social units are thought to have been small and highly mobile. Known sites have been identified within the contexts of ancient pluvial lake shores and coastlines, as evidenced by the presence of such characteristic hunting implements as fluted projectile points and chipped stone crescent forms. Prehistoric adaptations over the ensuing centuries have been identified in the archaeological record by numerous researchers working in the area since the early 1900s, as summarized by Fredrickson (1974) and Moratto (1984). Because of the Central Valley's plentiful resources and temperate climate, the valley was well populated prehistorically and served as the location for some of the more substantial village sites known in California.

Lillard et al. (1939) and others conducted numerous studies that form the core of the current state of knowledge about early archaeology of the upper Central Valley. Little has been found archaeologically that dates to the Paleo-Indian or the Lower Archaic time periods (6,000–3,000 B.P.); however, archaeologists have recovered a great deal of data from sites occupied by the Middle Archaic period (3,000–1,000 B.P.). The lack of sites from earlier periods may be because of high sedimentation rates that have left the earliest sites deeply buried and inaccessible. During the Middle Archaic Period, the broad regional patterns of foraging subsistence strategies gave way to more intensive procurement practices. Subsistence economies were more diversified, possibly including the introduction of acorn processing technology. Human populations were growing and occupying more diverse settings. Permanent villages that were occupied throughout the year were established, primarily along major waterways. The onset of status distinctions and other indicators of growing sociopolitical complexity mark the Upper Archaic Period (1,000–500 B.P.). Exchange systems become more complex and formalized. Evidence of regular, sustained trade between groups was seen for the first time.

Several technological and social changes characterized the Emergent Period (1,800–500 B.P.). The bow and arrow were introduced, ultimately replacing the dart and atlatl. Territorial boundaries between groups became well established. It became increasingly common that distinctions in an individual's social status could be linked to acquired wealth. Exchange of goods between groups became more regularized with more goods, including raw materials, entering into the exchange networks. In the latter portion of this period (1,800–1,500 B.P.), exchange relations became highly regularized and sophisticated. The clamshell disk bead became a monetary unit for exchange, and increasing quantities of goods moved greater distances. Specialists arose to govern various aspects of production and exchange.

Three time periods were well represented in archaeological assemblages in the general vicinity of the project site. These assemblages are discussed in detail in Moratto (1984) and summarized here. The Windmill Pattern (3,000–1,000 B.P.) of archaeological assemblages included an increased emphasis on acorn use as well as a continuation of hunting and fishing activities. Ground and polished charmstones, twined basketry, baked-clay artifacts, and worked shell and bone were hallmarks of Windmill culture. Widely ranging trade patterns brought goods in from the Coast Range and trans-Sierran sources as well as from closer trading partners. Distinctive burial practices identified with the Windmill Pattern also appeared in the Sierra Nevada foothills, indicating possible seasonal migration into the Sierra Nevada. The Berkeley Pattern (1,000–500 B.P.) represented a greater reliance on acorns as a food source than was seen previously. Distinctive stone and shell artifacts distinguished this pattern from earlier or later cultural expressions. The Berkeley Pattern appears to have developed in the San Francisco Bay Area and was spread through the migration of Plains Miwok Indians. The Augustine Pattern (500 B.P. to Historic Era) may have been stimulated by the southern migration of Wintuan people from north of the Sacramento Valley. Their culture was marked by a population increase resulting from more intensive food

procurement strategies, as well as by a marked change in burial practices, increased trade activities, and a well-defined ceramic technology.

Native Americans of the western Sierra Nevada foothills lived in relatively permanent settlements, visiting the higher reaches primarily during the summer months (Moratto 1984). Permanent settlements ranged from a handful of people to several hundred, and tended to be situated near water, preferably on slightly raised ground. A major village might include dwellings, granaries, sweat houses, a headman's house, and dance house, or other ceremonial structures. The people of the villages would gather a wide variety of fruits, nuts, greens, bulbs, roots, and seeds, processing and storing many of them for winter. Fish, birds, deer, small game, and many other animals were hunted.

By virtue of its geographic position, the project site lies within the Nisenan (sometimes referred to as the Southern Maidu) prehistoric sphere of influence. The Nisenan belong to the Penutian linguistic family. Kroeber (1925) recognized three Nisenan dialects—Northern Hill Nisenan, Southern Hill Nisenan, and Valley Nisenan. The Nisenan territory included the drainages of the Yuba, Bear, and American Rivers, and the lower drainages of the Feather River. The Nisenan ranged from the Sierra Nevada crest to nearly sea level at the Sacramento River.

Significant Native American contact with Europeans came late in the vicinity of the project site. Limited encounters with explorers and trappers during the early 19th century left the Nisenan and Washoe relatively unaffected (Wilson and Towne 1978). In 1833 the Valley Nisenan were decimated by a malaria epidemic that did not spread to the Hill tribes. However, Captain John Sutter settled in Hill Nisenan territory in 1839, and the subsequent discovery of gold resulted in the widespread killing and persecution of the Nisenan. By 1860, disease, violence, forced relocation, and environmental destruction had greatly affected Nisenan populations and traditional systems (Moratto 1984).

## **HISTORIC SETTING**

Early European travelers through the region included Gabriel Moraga and a group of Spanish explorers in 1806–1808, and fur trappers and explorers in the 1820s. Jedediah Smith led a group of trappers along the edge of the foothills to the American River in search of a pass over the Sierra Nevada in 1826. Kit Carson and John C. Fremont crossed the mountains near Lake Tahoe and descended to Sutter's Fort traveling along the South Fork of the American River in 1844.

The project site was originally part of the *Rancho Rio de los Americanos* Mexican land grant—more than 35,500 acres granted to William Leidesdorff and purchased by Joseph L. Folsom in 1848 after Leidesdorff's death (Hoover et al. 1990). Nearby White Rock Road was laid out in 1848 as a route between Sacramento and Placerville.

The Pony Express later used the route previously traveled by miners who were departing from Sacramento and heading for the Sierra Nevada foothills, along today's Folsom Boulevard. Several "way stations" appeared along this route through current-day Rancho Cordova. These stations were often named after proprietors or were indicative of their distance from Sacramento (e.g., Fifteen Mile House). The most famous of these was Mills Station, which was constructed in the early 1900s and subsequently used as a post office, a grocery store, and a library (FCUSD 2005). The building was later restored by Sacramento Regional Transit; it is currently used as administrative offices at the light-rail station located near Mather Field Road and Folsom Boulevard.

Agriculture was the main industry in the region during the late 19th and the early 20th centuries. In fact, the city would later be named after the Cordova Vineyard, which was located in the center of the *Rancho Rio de los Americanos* land grant (Miller 1990). The property was used primarily for wheat cultivation or grazing until the 1920s (Peak & Associates 1999, 2005). By 1923, most of the property was owned by the Natomas Company. Gold dredging to depths of 80–110 feet took place over most of the project site from 1915 to 1962, leaving behind huge piles of tailings that filled the dredge lines and rose significantly above the landscape.

The Natomas Company began selling parcels of dredged land to Aerojet beginning in 1950 (Peak & Associates 1999, 2005). Aerojet subsequently leased approximately 1,700 acres to McDonnell Douglas Corporation (MDC), which initially constructed rocket-engine test stands, buildings, and other facilities in the Administration, Alpha, and DM-14 areas of the site. Other areas, including the Alpha Complex, Beta Complex, Kappa Complex, Gamma Complex, and Sigma Complex, were subsequently developed. These various facilities were used for assembly and testing of rocket systems through 1969 (Peak & Associates 1999, 2005). Several parcels were leased to the National Aeronautics and Space Administration (NASA) from 1962 to 1972 for rocket engine tests. A more complete description of the static rocket test facilities and their history is provided in the *Draft Historic Buildings and Structures Inventory* (Weitze Research 2004) included as Appendix G of this DEIR/DEIS.

The U.S. Air Force constructed Mills Field, later renamed Mather Field, in 1918 to serve as a flight training school. After World War II, the base was the only aerial navigation school remaining for the U.S. military and its allies. A Strategic Air Command B-52 squadron was assigned to the air force base from 1958 through 1989, when the base was decommissioned under the federal Base Realignment and Closure Act. The closure of the base prompted the County Board of Supervisors to examine the potential for converting the base to a public-use airport facility. The Air Force transferred the base to the County, and in May 1995 Mather Airport was opened. Other parts of the former military base were redeveloped for use as housing and a business park (Sacramento County Airport System n.d.).

The name “Rancho Cordova” was formally applied to the area currently known as the City of Rancho Cordova in 1955 when a post office was established. Efforts by local residents to formally establish a city continued over the next 40 years, until Rancho Cordova was incorporated by voter approval in July 2003. At that time, the newly appointed city included more than 55,000 residents (City of Rancho Cordova 2003).

## **ARCHAEOLOGICAL RESOURCES**

Peak & Associates sent a letter of inquiry to the Native American Heritage Commission (NAHC) in March 2004 asking for information or concerns regarding the project site. The NAHC response indicated that there were no sites found in the Sacred Lands file. The NAHC included a list of 17 individuals and organizations that might have information or concerns regarding the project, with the recommendation that they all be contacted. In 2005, contact letters were sent to everyone on the NAHC list, along with maps of the project site and a request for information (Appendix H). Follow-up telephone calls were conducted in early May 2005. Only one person, Randy Yonemura of the Ione Band of the Miwok, responded. Mr. Yonemura indicated knowledge of cultural resources in two separate locations within the project site (Exhibit 3.9-1). This knowledge is based upon his recollections of being told about sites in the region that are known to other members of his tribe.

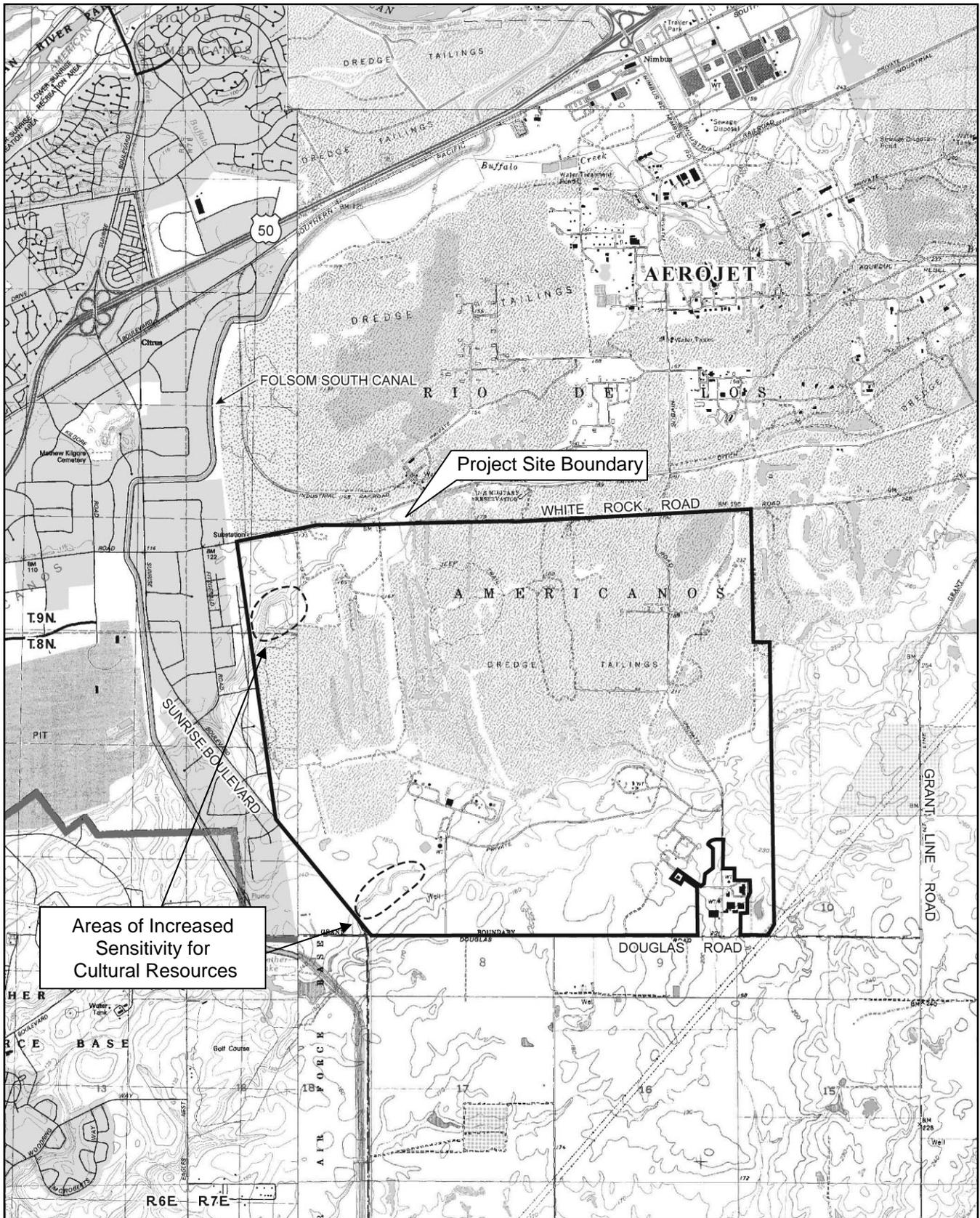
Only one recorded cultural resource is present on the project site. Portions of the dredge tailings, designated site CA-SAC-308H, were evaluated by Lindström and Wells (1989). They were determined to be ineligible for listing in the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR) because of the numerous other examples of dredge mining found in the region in a similarly intact state of preservation.

## **HISTORIC RESOURCES**

### **Historic Building and Site Inventory**

Weitze Research conducted an inventory and NRHP and CRHR evaluation of the project site, formerly known as the Douglas Missile Test Facility.

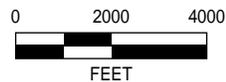
Dr. Karen J. Weitze served as the principal investigator for the effort. On April 11 and May 31, 2005, Dr. Weitze conducted field analyses at the former test facility and a review of drawings and documents held by the facility’s owner, Aerojet. Drawings and documents were reviewed at Aerojet’s Rancho Cordova location. Fifty-six existing



Source: USGS Citrus Heights/Carmichael Quads 1992, USGS Folsom/Buffalo Creek Quads 1980, EDAW 2005

## Areas of Increased Sensitivity for Cultural Resources

EXHIBIT 3.9-1



buildings, structures, and large-infrastructure remnants were inspected during the analysis, and digital photographs were taken of all accessible real property at the site. Dr. Weitze’s report, attached as Appendix G, contains historic photographs and a supporting discussion of the Douglas Missile Test Facility with a brief contextual history of similar aerospace test sites in California. A broad overview of the industrial plant program established for the U.S. military is also included, referencing the government-owned, contractor-operated plants; government-owned, government-operated plants; and privately owned and operated sites.

No building (real property) numbers are available for the structures at the Douglas Missile Test Facility. During 1963–1964, when the Douglas Missile Test Facility became the NASA S-IV B Stage Test Facility, MDC produced master plans for each test area within the facility. On these plans, individual buildings and structures are assigned numbers: Units 1–152. Many small ancillary structures remained unnumbered. Summary assessments of the buildings and structures within the Solid Propellant Assembly Area, Sigma Test Area, Alpha Test Complex, Beta Test Complex, Gamma Test Complex, and Kappa Test Complex are provided in Table 3.9-1 below. The locations of the referenced historic site and buildings are shown in Exhibit 3.9-2. Buildings within the Administration Area (now known as the Security Park), which is not part of the project site, are not listed.

**Table 3.9-1  
Inventory of Historic Sites and Buildings at the Project Site**

Name	Description	NRHP/CRHR Eligibility
Solid Propellant Assembly Area	A small, partially fenced compound laid out east-west along a single road in the northern part of the overall historic Douglas test site. The area includes two distinct clusters of buildings that bracket a larger north-south road. The western cluster of buildings lies within a security fence, while those east of the road have open access. The fenced western building group dates to 1956. The unfenced eastern building group dates to 1964–1966. Reviewed materials indicate that MDC constructed the western half of the Solid Propellant Assembly Area to support its early development work on the Nike Hercules interceptor missile, the IM-14. MDC added the eastern cluster of buildings as a part of an expansion of facilities during the early 1960s for NASA.	Yes (western half)
Sigma Test Area	A small compound laid out east-west, approximately one-half mile south of the Solid Propellant Assembly west of the north-south road. The Sigma Test Area is open access, with a security fence surrounding the assembly building. The western half of the Sigma Test Area dates to 1956. In the mid-1960s, MDC added two environmental test chambers to the east of the original construction. A map generated before the construction of the test chambers labels the site “Existing Nike Test Area.” The Sigma Test Area is interpreted as complementing the Solid Propellant Assembly Area, first in use for developmental work on the solid-rocket boosters of the Nike Hercules.	Yes
Alpha Test Complex	Aerojet designed the Alpha Test Complex for MDC in late 1956 and early 1957. The Alpha Test Complex included a central control facility and two test stands, with multiple ancillary structures. First used for static firing the Thor IRBM, the Alpha Test Complex was later reused for missile development undertaken by MDC for NASA. Construction of the Alpha Test Complex followed that of the paired Solid Propellant Assembly Area and Sigma Test Area, with initial operations in 1958. A security fence surrounds the Alpha Test Complex.	No

**Table 3.9-1  
Inventory of Historic Sites and Buildings at the Project Site**

Name	Description	NRHP/CRHR Eligibility
Beta Text Complex	Ralph M. Parsons designed the Beta Test Complex for the MDC Missile & Space Systems Division in 1963. The Beta Test Complex included a central control facility and two test stands, with multiple ancillary structures. First used for static firing the Saturn IV-B, the Beta Test Complex was later reused for continued launch stage development undertaken by MDC for NASA. A security fence surrounds the Beta Test Complex.	No
Kappa Text Complex	A small fenced area originally laid out northwest to southeast as a stand-alone site at the terminus of a northeast-to-southwest access road. An equipment remnant in this portion of the Kappa Test Complex carries a date of the late 1950s. Test reports indicate that the location was operational by late July 1958. A map of 1963 labels the site the “Existing E.E.S. Area.” The first test area within the EES (the Engineering Evaluation Site) supported IOC 2 for the Thor. In 1961, MDC expanded the Kappa Test Complex to the southwest, creating Test Cells A–E to support tests of the developmental RL-10 A-1 engine for NASA. In 1964, MDC additionally enlarged the Kappa Test Complex to the northeast as an area for subsystem development and production acceptance tests associated with the company’s contracts for NASA.	No
Gamma Text Complex	A rectangular fenced area immediately adjacent to the Kappa Test Complex. Added to the Douglas Missile Test Facility in 1964–1965, the Gamma Test Complex accommodated tests of self-igniting fuels, including tests of engines and supply systems. MDC operated the Gamma Test Complex to support its work for NASA.	No

Notes: IOC = initial operational capability; IRBM = Intermediate Range Ballistic Missile; MDC = McDonnell Douglas Corporation; NASA = National Aeronautics and Space Administration  
Source: Weitze Research 2005

**Results of the Historic Building and Site Inventory**

Approximately 40% of the original Units 1–152 of the Douglas Missile Test Facility exist today, with a small number of these no longer in Aerojet ownership and not part of the project site (located in the Security Park). Although many ancillary structures retain their historic exterior appearance, the large test stands in the Alpha and Beta Complexes have lost their NRHP integrity and therefore are ineligible for listing in the NRHP and CRHR. The Gamma and Kappa Test Complexes have also suffered from a substantial loss of infrastructure. These two areas historically contained small individual test facilities, and were supportive sites for the work conducted at the Alpha and Beta Test Complexes.

However, two of the original test areas of the Douglas Missile Test Facility appear to be eligible for listing in the NRHP and CRHR: the 1956–1957 western half of the Solid Propellant Assembly Area and the 1956–1957 component of the Sigma Test Area. These two test areas are highly intact and are associated with early developmental testing of solid-propellant rocket boosters for the Nike Hercules (DM-14), Nike Zeus (DM-15), and Skybolt (DM-20) missiles. The Solid Propellant Assembly Area has previously been misidentified as an assembly site for the MB-1 Genie missile. Documentation and analysis do not indicate that work on the MB-1 Genie occurred in the Solid Propellant Assembly Area. The evaluation results for each historic site are summarized below.



Source: Aerojet 2005, Weitze Research 2005, Sacramento County 2002

### Historic Sites

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE

X 3T089.01 8/05

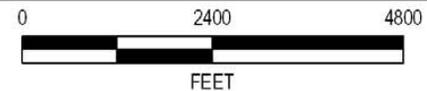


EXHIBIT 3.9-2



- ▶ **Solid Propellant Assembly Area:** Four buildings constructed in 1956—Units 102 (storage building), 103 (assembly building), 104 (motor storage building), and 109 (paint shed)—are interpreted as eligible for the NRHP and CRHR as a district under Criteria A and C, defined below under Section 106 of the National Historic Preservation Act, for their association with the developmental Nike Hercules missile. The distinctive earthen bermwork surrounding Units 103 and 104 is included as a contributing feature of the property. This portion of the Solid Propellant Assembly Area complements a second developmental Nike Hercules test site, the Sigma Test Area to the south. Two additional buildings, Unit 106 (A.S.V. building) and Unit 105 (Quonset hut), are ancillary buildings constructed in 1964 and are not considered part of the district and are not eligible for NRHP and CRHR listing.
- ▶ **Sigma Test Area:** Four buildings constructed in 1956—Units 93 (assembly building), 94 (test control center), and 95 (support building), and an unnumbered personnel bunker—are interpreted as eligible for the NRHP and CRHR as a district under Criteria A and C for their association with the developmental Nike Hercules missile. The distinctive earthen bermwork surrounding Unit 93 is included as a contributing feature of the property. Two additional buildings (Units 91 and 92, both conditioning chambers) were built in 1964, are not part of the historic district, and are not eligible for NRHP and CRHR listing. This portion of the Sigma Test Area complements a second developmental Nike Hercules test site, the Solid Propellant Assembly Area to the north.
- ▶ **Alpha Test Complex:** Fourteen buildings and large structural remnants were present in the Alpha Test Complex in May 2005. None of these buildings retains the integrity or important associations, either as a group or individually, to be eligible for NRHP and CRHR listing.
- ▶ **Beta Test Complex:** Twenty-two buildings and large structural remnants were present in the Beta Test Complex in May 2005. None of these buildings retains the integrity or important associations, either as a group or individually, to be eligible for NRHP and CRHR listing.
- ▶ **Kappa Test Complex:** Four buildings and large structural remnants were present in the Beta Test Complex in May 2005. Also present on-site were free-standing power poles, lights, fire hydrants, fire cannons (deluge water systems), concrete pads, and one piece of derelict equipment from the late 1950s. No buildings and structures in the Kappa Test Complex are eligible for NRHP and CRHR listing, either individually or as a district.
- ▶ **Gamma Test Complex:** Four buildings and large structural remnants were present in the Gamma Test Complex in May 2005. No buildings and structures in the Gamma Test Complex are eligible for NRHP and CRHR listing, either individually or as a district.

Dr. Weitz's assessment of the remaining facilities at the project site (Appendix G) concluded that they were a good example of facilities developed for the rocket test programs of the 1950s and 1960s, but were ineligible for listing in either the NRHP or the CRHR because of their poor condition, caused by decommissioning and extensive vandalism.

### 3.9.2 REGULATORY FRAMEWORK

#### FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

##### Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into consideration the potential effects of proposed undertakings on cultural resources listed on or determined potentially eligible for inclusion in the NRHP, and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to

comment on the proposed undertaking. The regulations implementing Section 106 are promulgated by the Secretary of the Interior, as codified in Code of Federal Regulations (CFR) Title 36, Part 800 (36 CFR Part 800).

This site is not located on federal land and is not federally funded, but does require a federal action authorizing a permit under Section 404 of the Clean Water Act; therefore, compliance with the requirements of Section 106 is required. Section 106 requirements apply to properties that are not formally determined eligible, but that are considered by the State Historic Preservation Officer to meet eligibility requirements. The intensity of impacts on archaeological resources relates to the importance of the information they may contain and/or the extent of disturbance or degradation that may be caused by the impacts.

Determining the NRHP eligibility of a site or district is guided by the specific legal context of the site's significance as set out in 36 CFR Part 60.4 (see below). The NHPA authorizes the Secretary of the Interior to maintain and expand a National Register of districts, sites, buildings, structures, and objects of significance in American history, architecture, archaeology, engineering, and culture. A property may be eligible for listing in the NRHP if it meets criteria for evaluation as defined in 36 CFR 60.4, as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history;
- (b) that are associated with the lives of persons significant in our past;
- (c) that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

There is also a requirement for a map of the Area of Potential Effects (APE), as described in Section 106 and codified in 36 CFR 800.4(a)(1). The project boundary, as depicted in Exhibit 2-2 of this DEIR/DEIS, has been used as the project APE.

## **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

### **California Environmental Quality Act**

CEQA offers directives regarding impacts on historical resources and unique archaeological resources. The State CEQA Guidelines define a "historical resource" to include more than one category of resources. The first category is "resource(s) listed or eligible for listing on the CRHR." (California Code of Regulations [CCR] Section 15064.5[a][1]; see also Public Resources Code Sections 5024.1 and 21084.1.) A historical resource may be eligible for inclusion in the CRHR, as determined by the State Historical Resources Commission or the lead agency, if the resource:

- ▶ is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
- ▶ is associated with the lives of persons important in our past; or
- ▶ embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

- ▶ has yielded, or may be likely to yield, information important in prehistory or history.

In addition, a resource is presumed to constitute a “historical resource” if it is included in a “local register of historical resources” unless “the preponderance of evidence demonstrates that it is not historically or culturally significant.” (CCR Section 15064.5[a][2])

Another category of “historical resources” is those deemed significant pursuant to criteria set forth in Public Resources Code Section 5024.1(g), as follows:

*[a] resource identified as significant in an historical survey may be listed in the California Register if the survey meets all of the following criteria:*

- (1) The survey has been or will be included in the State Historic Resources Inventory.*
- (2) The survey and the survey documentation were prepared in accordance with . . . procedures and requirements [of the State Office of Historic Preservation].*
- (3) The resource is evaluated and determined by the [State Office of Historic Preservation] to have a significance rating of Category 1 to 5 on [the Department of Parks and Recreation Historic Resources Inventory Form].*
- (4) If the survey is five years or more old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historic resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminishes the significance of the resource.*

Resources identified by such surveys are presumed to be historically or culturally significant unless the preponderance of the evidence demonstrates otherwise.

The final category of “historical resources” is an optional one, which a lead agency may opt to consider or not consider. According to the State CEQA Guidelines (CCR Section 15064.5[a][3]):

*Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.*

In addition to the obligation to consider impacts on “historical resources,” CEQA and the State CEQA Guidelines require consideration of unique archaeological sites (Public Resources Code Section 21083.2, 14 CCR Section 15064.5). A “unique archaeological resource” is defined in CEQA (Public Resources Code Section 21083.2[g]) as:

*...an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.*

(3) *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

If data recovery through excavation is the only feasible mitigation, a data recovery plan that makes provisions for adequately recovering the scientifically consequential information from and about the historical resource shall be prepared and adopted before any excavation is undertaken (CCR Section 15126.4[b][3][C]). Other acceptable methods of mitigation under the State CEQA Guidelines (CCR Section 15126.4) include excavation and curation or study in place without excavation and curation (if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource).

The State CEQA Guidelines (CCR Section 15064.5[e]) require that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the NAHC must be contacted within 24 hours. At that time, the State CEQA Guidelines (CCR Section 15064.5[d]) direct the lead agency to consult with any appropriate Native Americans as identified by the NAHC in a timely manner, and direct the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES**

### **Rancho Cordova General Plan**

Goals and policies of the *Rancho Cordova General Plan* (City General Plan) relating to cultural resources that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

## **3.9.3 ENVIRONMENTAL CONSEQUENCES**

### **THRESHOLDS OF SIGNIFICANCE**

A cultural resources impact is considered significant if implementation of the proposed project or alternatives under consideration would do either of the following:

- ▶ cause a substantial adverse change in the significance of a unique archaeological resource or an historical resource as defined in Section 21083.2 of CEQA and Section 15064.5 of the State CEQA Guidelines, respectively; or
- ▶ disturb any human remains, including those interred outside of formal cemeteries.

The State CEQA Guidelines (CCR Section 15064.5) define “substantial adverse change” as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings.

Under the NHPA, if it is determined that historic properties may be affected by an undertaking, the agency proceeds with the Section 106 process, assessing adverse effects. The criteria of adverse effects are found in Section 800.5(a)(1) of the regulations of the NHPA. According to the criteria, an adverse effect occurs when the integrity of the historic property may be diminished by the undertaking through alteration of the characteristics that qualify the property for the NRHP. Such alteration can be caused directly as a result of the undertaking or be an indirect consequence. The criteria of adverse effect state:

*An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials,*

*workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.*

Adverse effects on historic properties include, but are not limited to:

- ▶ physical destruction of or damage to all or part of the property;
- ▶ alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with *The Secretary of Interior's Standards for the Treatment of Historic Properties* (36 CFR part 68) and applicable guidelines;
- ▶ removal of the property from its historic location;
- ▶ change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- ▶ introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- ▶ neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- ▶ transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

## **ANALYSIS METHODOLOGY**

The analysis of cultural resources presented herein is based upon a background record search and research in the Sacramento Archives and Museums Collection Center conducted by Peak & Associates in 1999, field studies of the area conducted by various sources in the 1980s and 1990s, a Native American contact program, examination of Aerojet maps and documents in 2005, and the *Draft Historic Buildings and Structures Inventory* (Appendix G) prepared by Dr. Karen Weitze, an archaeological historian with qualifications that meet the Secretary of the Interior's standards and guidelines. In addition, on May 25, 2005, EDAW archaeologists, accompanied by Mr. Yonemura, visited the areas within the project site that he had identified as previously known resource locations. Exhibit 3.9-1 depicts general areas of increased cultural resource sensitivity based on those discussions (Yonemura, pers. comm., 2005). At the time of the EDAW field visit, spring grasses were so high and dense that there was no surface soil visibility in any of the sensitive regions.

## **IMPACT ANALYSIS**

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

The impacts and mitigation measures below are generally discussed using CEQA language such as "historical resources." This discussion also includes consideration of resources under the NHPA, but without offering the confusion of using two sets of similar terminology. Where impacts or mitigation measures under NEPA differ from those of CEQA, they are called out separately.

## Program Level Impacts and Mitigation Measures

### IMPACT 3.9-1

**Loss or Damage to Recorded Cultural Resource Sites.** *Construction activities during project implementation could result in the loss of known cultural resources.*

PP, HD, IM,  
NF

Development of the project site would result in construction activity over approximately 3,000–3,300 acres (depending on the size of the wetland preserve). One previously recorded cultural resources site consisting of dredge tailings (CA-SAC-308H) is located on the project site. However, this resource has been informally evaluated and found to be ineligible for listing in the NRHP and CRHR, with the result that the resource is not “historical” within the meaning of CEQA. Therefore, this would be a **less-than-significant, indirect** impact. **No direct** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. As stated above, one recorded cultural resources site consisting of dredge tailings is located on the project site. Although found not to be eligible for listing in the NRHP or CRHR, the loss would occur as a result of mining activities.

Because the project would not be implemented under the No Project Alternative, no development-related construction activities would occur that could affect known cultural resources. **No direct** or **indirect** impacts would occur under this alternative. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

### IMPACT 3.9-2

**Loss of or Damage to Historic Sites, Buildings, and Structures.** *Construction activities during project implementation would result in the loss of known historic sites, buildings, and structures.*

PP, HD, IM,  
NF

Two of the original test areas of the Douglas Missile Test Facility are potentially eligible for listing in the NRHP and CRHR: the 1956–1957 western half of the Solid Propellant Assembly Area and the 1956–1957 component of the Sigma Test Area (Exhibit 3.9-2). These two test areas are highly intact and are associated with early developmental testing of solid-propellant rocket boosters for the Nike Hercules (DM-14), Nike Zeus (DM-15), and Skybolt (DM-20) missiles. The remaining facilities at the project site (Kappa Complex, Gamma Complex, and Alpha Complex), while providing good examples of facilities developed for the rocket test programs of the 1950s and 1960s, are ineligible for listing in either the NRHP or the CRHR because of their poor condition, caused by decommissioning and extensive vandalism. Project implementation would result in the demolition of all existing aerospace facilities within the project site.

Avoidance of the potentially eligible Solid Propellant Assembly Area and Sigma Test Area is not feasible because of the planned alignment of Americanos Boulevard. Americanos Boulevard is contained within the City General Plan and is shown as a Major Roadway on the City’s Circulation Plan. Major roads provide for major cross-town and regional travel and carry larger volumes of traffic. They are roadways of four or six lanes and may have a median that can accommodate a turning lane or landscaping. Their primary purpose is to connect land uses together. The planned alignment of Americanos Boulevard has thus been determined to be independent of Rio del Oro Specific Plan project planning, and reflects citywide transportation

needs and concerns. The future alignment of Americanos Boulevard would bisect the Solid Propellant Assembly Area and Sigma Test Area. Although the planned alignment of this major roadway would not necessarily have a direct impact on any of the buildings, it would substantially degrade the visual character of these two sites. Also, Americanos Boulevard would most likely have a direct impact on associated berms that are listed as part of the sites. A substantial realignment of this major roadway is not feasible because of the close proximity of other major roadways such as Sunrise Boulevard and Rancho Cordova Parkway, and because of conflicts with the function of the City's master roadway system as set forth in the City General Plan. Therefore, avoidance of these potentially eligible properties is not feasible.

Furthermore, relocation of the Solid Propellant Assembly Area and Sigma Test Area is not appropriate because of the nature of the sites. The integrity of these two sites includes the spatial relationship of the buildings and berms to one another as a functioning complex. This relationship is further defined in a site-specific way to the GenCorp property in Rancho Cordova. Relocation of the buildings would destroy this relationship and substantially degrade the character of the sites.

Loss of these historic structures would be a **direct, significant** impact. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not affect the on-site historic structures.

Because the project would not be implemented under the No Project Alternative, no development-related construction activities would occur, and none of the historic sites, buildings, or structures would be demolished. Thus, there would be **no direct** or **indirect** impacts. *[Lesser]*

#### Mitigation Measure 3.9-2: Record Eligible Historic Resources to Historic American Building Survey Standards and on Appropriate State Forms.

PP, HD, IM, NF If the Solid Propellant Assembly Area and the Sigma Test Area structures and their earthen berms must be demolished for project implementation, built elements of the eligible districts shall be documented by the project applicant(s) according to Historic American Building Survey (HABS) standards and recorded as cultural resources on California Department of Parks and Recreation (State Parks) Series 523 Primary and Archaeological Site records, and other appropriate forms from State Parks. The project applicant(s) shall have this documentation completed before approval of demolition permits for any of the historic structures or features.

Timing: Before approval of demolition permits for the historic structures.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.9-2 would help to mitigate the loss of historic sites, buildings, and structures under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. The implementation of mitigation would reduce the impact associated with loss of historical resources to a **less-than-significant** level under the NEPA, but the impact would remain **significant and unavoidable** under CEQA, as described below.

36 CFR 800.6 (“Resolution of Adverse Effects”) states that consulting parties to an undertaking may use standard treatments established under Section 800.14(d) as a basis for a Memorandum of Agreement (MOA) to deal with known “historic properties” or a Programmatic Agreement (PA) to deal with as-yet-undiscovered “historic properties.” Thus, under NEPA, an executed MOA or PA may include avoidance, limiting the magnitude of the undertaking, rehabilitation of some historic properties, preservation in place, relocation of historic properties, documentation, or data recovery to mitigate the effects of an undertaking to a less-than-significant level.

However, the State CEQA Guidelines (CCR Section 15064.5) state that a project that may cause a substantial adverse change in the significance of an historical resource (such as damaging or destroying the qualities that make it significant) may have a significant effect on the environment. The City conservatively treats the “may,” as found in that formulation, as being “will” where an EIR has been prepared for a project. The 1956–1957 western half of the Solid Propellant Assembly Area and the 1956–1957 component of the Sigma Test Area appear to be eligible for listing in the NRHP and the CRHR. Implementation of Mitigation Measure 3.9-2 would substantially lessen the significant effect by ensuring that the Solid Propellant Assembly Area and the Sigma Test Area structures and their earthen berms are documented and recorded according to HABS standards. However, under CEQA (Public Resources Code Section 15064.5), demolition constitutes a substantial adverse change in the significance of a historic resource, and therefore recordation would not mitigate to a less-than-significant level the loss of historic sites, buildings, and structures. Thus, project implementation would result in a significant and unavoidable impact on NRHP- and CRHR-eligible structures. As such, even after Mitigation Measure 3.9-2 is implemented, impacts on the resources would remain significant and unavoidable under CEQA.

**IMPACT  
3.9-3**

**Potential Damage to As-Yet-Undiscovered Prehistoric Sites or Native American Burials.** *Construction and other earthmoving activities during project implementation could result in damage to as-yet-unknown cultural resources, including prehistoric sites or Native American burials.*

PP, HD, IM  
NF

As-yet-undiscovered or unrecorded cultural resource sites may be uncovered by project-related construction activities. This is true in particular for the areas of increased cultural sensitivity identified in Exhibit 3.9-1. The potential exists for previously unidentified archaeological sites to be identified during preconstruction or construction-related ground-disturbing activities. If such resources were to represent “historical resources” or “unique archaeological resources” as defined by CEQA, any substantial adverse change in the significance of those resources or destruction of these resources would be considered a significant impact. Therefore, impacts on as-yet-undiscovered cultural resources are considered **direct** and **potentially significant**. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. No damage to as-yet-undiscovered resources would occur because mining would not involve excavation, but would remove the aggregate.

Because the project would not be implemented under the No Project Alternative, no development-related construction activities would occur that would affect as-yet-undiscovered cultural resources. **No direct** or **indirect** impacts on as-yet-undiscovered cultural resources would result under this alternative. *[Lesser]*

**Mitigation Measure 3.9-3: Provide Preconstruction Worker Education and Stop Potentially Damaging Work if Human Remains are Uncovered During Construction.**

PP, HD, IM,  
NF

Before initiation of construction or ground-disturbing activities associated with the project, the project applicant(s) for all project phases shall require all construction personnel to be alerted to the possibility of buried cultural resources. The general contractor and its supervisory staff shall be responsible for monitoring the construction project for disturbance of cultural resources. 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 City shall be notified immediately. The project applicant(s) shall retain a City-approved qualified archaeologist who shall conduct a field investigation of the specific site and recommend mitigation deemed necessary for the protection or recovery of any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. The City shall be responsible for approval of recommended mitigation if it is determined by the City to be feasible in light of approved land uses. The project applicant(s) shall implement the approved mitigation before the resumption of construction activities at the construction site.

In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the project site, work within 50 feet of the remains shall be suspended immediately, and the City and the County Coroner shall be notified immediately. If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours of that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign a Most Likely Descendant (MLD) to serve as the main point of Native American contact and consultation. Following the coroner's findings, the MLD and the archaeologist shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The project applicant(s) shall be required to implement any feasible, timely-formulated mitigation deemed necessary for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed.

This measure shall be included in all grading and improvement plans for all project phases.

**Timing:** Before the approval of grading plans and during all ground-disturbing activities for all project phases.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.9-3 would reduce damage to as-yet-undiscovered or unrecorded cultural resources during construction-related and other ground-disturbing activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level, as described below.

36 CFR 800.6 ("Resolution of Adverse Effects") states that consulting parties to an undertaking may use standard treatments established under Section 800.14(d) as a basis for an MOA to deal with known "historic properties" or a PA to deal with as-yet-undiscovered "historic properties." Thus, under NEPA, an executed MOA or PA may include avoidance, limiting the magnitude of the undertaking, rehabilitation of some historic properties, preservation in place, relocation of historic properties, documentation, or data recovery to mitigate the effects of an undertaking to a **less-than-significant** level.

However, CEQA states that a project that may cause a substantial adverse change in the significance of a historical resource (i.e., an archeological resource meeting the definition of “historical resource”), such as damaging or destroying the qualities that make it historical, is a project that has a significant effect on the environment. As such, if a significant historic resource is discovered during project implementation and cannot feasibly be avoided, then even after Mitigation Measure 3.9-6 is implemented, impacts on historical resources would remain significant and unavoidable under CEQA. Impacts on any resources that do not qualify as “historical,” however, would be mitigated to less-than-significant levels even if avoidance is not feasible.

Surveys conducted for the project site did not conclude that the project site or vicinity as highly sensitive for archaeological resources. There have been no such discoveries of sensitive resources in the project site and vicinity. The project site has been heavily disturbed from dredging and rocket testing activities, therefore, the likelihood of encountering as-yet-undiscovered resources is low. For these reasons, implementation of Mitigation Measure 3.9-3 would reduce potential impacts to as-yet-undiscovered resources to a **less-than-significant** level.

### Project Level (Phase 1) Impacts and Mitigation Measures

#### IMPACT 3.9-4

**Loss of or Damage to Recorded Cultural Resource Sites.** *Construction activities during development Phase 1 could result in the loss of known cultural resources.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.9-1 for further discussion of this impact.

#### IMPACT 3.9-5

**Loss of or Damage to Historic Sites, Buildings, and Structures.** *Construction activities during development Phase 1 could result in the loss of known historic sites, buildings, and structures.*

PP, HD, IM,  
NF

Because there are no historic sites or structures located within the Phase 1 development area, construction activities associated with implementation of the Proposed Project, High Density, and Impact Minimization Alternatives would not entail demolition of any of these structures. Therefore, there would be **no direct or indirect** impacts. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Because there are no historic sites or structures located within the Phase 1 development area, mining activities would not affect these resources.

Because the project would not be implemented under the No Project Alternative, no development-related construction activities would occur, and there would be no loss of or damage to historic sites, buildings, or structures. Thus, there would be **no direct or indirect** impacts. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

#### IMPACT 3.9-6

**Potential Damage to As-Yet-Undiscovered Prehistoric Sites or Native American Burials.** *Construction and other earthmoving activities during development Phase 1 could result in damage to as-yet-unknown cultural resources, including prehistoric sites or Native American burials.*

PP, HD, IM, NF As-yet-undiscovered cultural resources may be identified during development Phase 1, particularly because two areas have been identified near the northwest and southwest corners of the project site as having a higher potential to contain prehistoric archaeological resources. Dense grasses precluded any surface visibility in these areas; however, although no evidence of prehistoric or early historic interments was seen at the project site in surface contexts, unmarked and undocumented subsurface human remains could still be present at the site. Therefore, impacts on as-yet-undiscovered or unrecorded archaeological sites or human remains are considered a **potentially significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. No damage to as-yet-undiscovered resources would occur because mining would not involve excavation, but rather remove the aggregate.

Because the project would not be implemented under the No Project Alternative, no development-related construction activities would occur that would affect as-yet-undiscovered cultural resources. **No direct** or **indirect** impacts would occur under implementation of this alternative. *[Lesser]*

#### Mitigation Measure 3.9-6: Monitor Construction in Culturally Sensitive Areas and Stop Potentially Damaging Work if Archaeological Sites or Human Remains are Uncovered during Construction.

PP, HD, IM, NF Because areas of increased cultural sensitivity have been identified as a result of Native American contacts, the project applicant(s) of Phase 1 shall retain a City-approved qualified professional archaeologist to provide on-site monitoring during construction activities in these sensitive areas, as depicted in Exhibit 3.9-1. If the archaeologist notes unusual amounts of bone, stone, shell, burned soils, or other possible indications of buried archaeological resources, construction in the vicinity shall be halted until the find can be assessed. The archaeologist shall conduct a field investigation of the specific site and shall recommend mitigation deemed necessary for the protection or recovery of any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. The City shall be responsible for approval of recommended mitigation if it is determined by the City to be feasible in light of approved land uses. The project applicant(s) shall implement the approved mitigation before the resumption of construction activities at the construction site.

In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the project site, work within 50 feet of the remains shall be suspended immediately, and the City and the County Coroner shall be notified immediately. If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours of that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign an MLD to serve as the main point of Native American contact and consultation. Following the coroner's findings, the MLD and the archaeologist shall determine the ultimate treatment and disposition of the remains and shall take appropriate steps to ensure that additional human interments are not disturbed. The project applicant(s) of Phase 1 shall be required to implement any feasible, timely-formulated mitigation deemed necessary for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed.

Implementation of Mitigation Measure 3.9-3 discussed above will help reduce potential impacts to cultural resources.

**Timing:** Before the approval of grading plans and during all ground-disturbing activities in the sensitive areas of development Phase 1.

**Enforcement:** City of Rancho Cordova Planning Department.

**NP** No mitigation measures are required.

Implementation of Mitigation Measure 3.9-6 would reduce damage to as-yet-undiscovered or unrecorded cultural resources during construction-related and other ground-disturbing activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level, as described below.

36 CFR 800.6 (“Resolution of Adverse Effects”) states that consulting parties to an undertaking may use standard treatments established under Section 800.14(d) as a basis for an MOA to deal with known “historic properties” or a PA to deal with as-yet-undiscovered “historic properties.” Thus, under NEPA, an executed MOA or PA may include avoidance, limiting the magnitude of the undertaking, rehabilitation of some historic properties, preservation in place, relocation of historic properties, documentation, or data recovery to mitigate the effects of an undertaking to a **less-than-significant** level.

However, CEQA states that a project that may cause a substantial adverse change in the significance of a historical resource (i.e., an archeological resource meeting the definition of “historical resource”), such as damaging or destroying the qualities that make it historical, is a project that has a significant effect on the environment. As such, if a significant historic resource is discovered during project implementation and cannot feasibly be avoided, then even after Mitigation Measure 3.9-6 is implemented, impacts on historical resources would remain significant and unavoidable under CEQA. Impacts on any resources that do not qualify as “historical,” however, would be mitigated to less-than-significant levels even if avoidance is not feasible.

Surveys conducted for the project site did not conclude that the project site or vicinity as highly sensitive for archaeological resources. There have been no such discoveries of sensitive resources in the project site and vicinity. The project site has been heavily disturbed from dredging activities and rocket testing activities, therefore, the likelihood of encountering as-yet-undiscovered resources is low. For these reasons, implementation of Mitigation Measure 3.9-6 would reduce potential impacts to as-yet-undiscovered resources to a **less-than-significant** level.

## **CUMULATIVE IMPACTS**

Cultural resources in the project region generally consist of prehistoric sites, isolated artifacts, mining features, and structures from rocket testing facilities. During the 19th and 20th centuries, intensive mining in the region likely resulted in the destruction or disturbance of prehistoric sites, as well as earlier, smaller scale mining sites. Since this period, the creation and enforcement of various regulations protecting cultural resources have substantially reduced the rate and intensity of these impacts; however, even with these regulations, cultural resources are still degraded or destroyed as development in the region proceeds.

The results of the cultural resources record searches and inventories conducted for the project indicate that the project site contains a portion of one previously recorded historic cultural resource, site CA-SAC-308H, which consists of dredge tailings. The site, however, was found to not be eligible for listing in the NHRP or CRHR. Piles of tailings from dredge mining in the region are relatively common, and continued removal of some of these features does not significantly reduce or eliminate the resource in the region.

No new archaeological sites were identified within the project site during field surveys, although two areas were identified as having the potential to contain prehistoric resources. As-yet-undiscovered subsurface cultural resources might also underlie the project site.

The Rio del Oro project would not contribute to any cumulatively considerable impacts on as-yet-undiscovered resources because surveys conducted for the project site did not conclude that the project site or vicinity as highly sensitive for archaeological resources and there have been no such discoveries of sensitive resources in the project site and vicinity. However, undiscovered cultural resources may underlie one or more of the other related project sites. Mitigation Measures 3.9-3 and 3.9-6 would reduce the project's impacts on as-yet-undiscovered site-specific cultural resources to a less-than-significant level, but other projects may not incorporate such mitigation. It is unknown whether the related project sites contain historic resources, or whether the related projects would implement appropriate mitigation. Furthermore, even after mitigation is implemented, it may be impossible to avoid the historic resource, and a substantial adverse change in the significance of the historical resource (such as damaging or destroying the qualities that make it significant) could result. Therefore, the cumulative projects could result in potentially significant cumulative impacts on undocumented historic resources within the project vicinity.

The structures in the Solid Propellant Assembly Area and Sigma Test Area would be demolished as a result of project implementation, but implementation of Mitigation Measure 3.9-2 would result in the detailed recordation of these structures before demolition. As documented in the *Draft Historic Building and Structures Inventory* (Appendix G), they may be considered potentially eligible for the NRHP and CRHR. Under CEQA, demolition constitutes a substantial adverse change in the significance of these historic resources that cannot be mitigated to a less-than-significant level; therefore, the project would contribute to cumulatively considerable impacts on known historic sites, buildings, and structures in the project vicinity.

### **3.9.4 RESIDUAL SIGNIFICANT IMPACTS**

The 1956–1957 western half of the Solid Propellant Assembly Area and the 1956–1957 component of the Sigma Test Area appear to be eligible for listing in the NRHP and the CRHR. Implementation of Mitigation Measure 3.9-2 would ensure that the Solid Propellant Assembly Area and the Sigma Test Area structures and their earthen berms are documented and recorded according to HABS standards. However, under the State CEQA Guidelines (CCR Section 15064.5), demolition constitutes a substantial adverse change in the significance of a historic resource, and therefore recordation would not mitigate the loss of historic sites, buildings, and structures. Thus, project implementation would result in a significant and unavoidable impact on NRHP- and CRHR-eligible structures.

## 3.10 BIOLOGICAL RESOURCES

### 3.10.1 AFFECTED ENVIRONMENT

Gold mining activities that consisted of dredging alluvial deposits occurred on the project site from historic times through 1962. The dredging operations significantly altered the natural landscape of the site by creating massive piles of tailings that cover extensive portions of the site. These piles resulted in the creation of basins in between tailings that filled with water because of their low-lying locations on the landscape and because of mining-related manipulation of the site's surface water and groundwater supplies. Further alterations to the natural landscape occurred when the site was used for development and testing of rocket engines. In recent years, large portions of the project site have been used mainly for grazing of livestock (horses and cattle).

Reconnaissance-level surveys of the project site were conducted by EDAW biologists on December 13, 2004, and January 12 and 13, 2005. These surveys consisted of walking meandering transects throughout the project site. The purpose of the surveys was to characterize and map biological resources present on the project site in sufficient detail to support a determination of overall habitat quality. To provide a thorough characterization of the habitat types present, data were collected at 35 representative sampling points at the project site. Each habitat type present at the project site, as determined using aerial photographs, included at least one sampling point. At each sampling point the biologists surveyed an area within an approximately 100-foot radius of the point.

The following protocol-level biological resource surveys have been conducted at the project site and were used as sources of information for this document:

- ▶ *Jurisdictional Delineation, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 1999);
- ▶ *Wetland Delineation for Rio del Oro, Sacramento County, CA* (ECORP 2004a);
- ▶ *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 2000a);
- ▶ *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson and Skordal 2000b, 2001);
- ▶ *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Sacramento County, CA* (ECORP 2003); and
- ▶ *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003).

### VEGETATION

The landscape on the northern half of the project site is characterized by linear rows of dredge tailings interspersed with excavated basins. The tailings are sparsely vegetated with ruderal plant species that are also associated with the annual grassland vegetation on the project site. The basins are characterized by a variety of riparian plant communities including coyote brush scrub, willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, oak woodland, and cottonwood–willow riparian forest. The remainder of the project site is characterized by annual grassland habitat interspersed with vernal pools and seasonal wetlands. Morrison Creek, a seasonal drainage, traverses the southern half of the project site in an east-to-west direction. The project site also contains several roads and developed areas as well as the White Rock Dump site.

Although the riparian vegetation associations described in this document are referred to as riparian habitat, they occur in isolated basins between tailings and are not associated with drainages characterized by a bed and bank. These riparian habitat types have evolved in response to the unique physical characteristics created on the project site by the historical dredging activities. Riparian vegetation throughout much of the project site is characterized by trees and shrubs that are old and senescent (i.e., in the growth phase in which the plant proceeds from full maturity to death), with little regeneration occurring. It appears that hydrologic conditions that allowed riparian vegetation to originally establish within the basins have changed and no longer support regeneration. A review of U.S. Geological Survey (USGS) topographic maps of the area revealed that some water features that were present approximately 20 years ago no longer exist.

More than 1,500 trees with a diameter at breast height (dbh) of 6 inches or greater have been documented on the project site (Sierra Nevada Arborists 2003); most of these are located on the northern half of the project site. The southern portion of the project site is characterized by a mosaic of annual grassland vegetation, interspersed with vernal pools and seasonal wetlands. Seasonal drainages, including Morrison Creek, also traverse this plant community.

Plant communities found on the project site are described below and depicted in Exhibit 3.10-1. Plant community nomenclature and descriptions are based on Holland (1986) with some modifications to reflect local variation. Vernal pools and other wetlands are discussed in the “Sensitive Biological Resources” section below.

### **Annual Grassland**

Annual grassland covers approximately 1,975 acres, half the project site, and is the most extensive plant community on the site. Annual grassland is found on the unmined portions of the site; it also characterizes the understory of the riparian communities. Annual grassland on the project site is characterized by a dense cover of nonnative grasses and forbs: ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), Italian thistle (*Carduus pycnocephalus*), yellow starthistle (*Centaurea solstitialis*), dovefoot geranium (*Geranium molle*), medusa head (*Taeniatherum caput-medusae*), rose clover (*Trifolium hirtum*), and vetch (*Vicia* spp.). Ruderal annual grassland is found on the remnant soils of the tailing piles, where plant cover is sparse and yellow starthistle, an invasive weed, is common. Annual grassland outside of the mounds of tailings supports some native forbs such as California poppy (*Eschscholzia californica*) and narrow tarplant (*Holocarpha virgata*). In areas between tailing mounds, the annual grassland plant community frequently includes a high percentage of blessed milk thistle (*Silybum marianum*).

### **Coyote Brush Scrub**

Approximately 23 acres of coyote brush scrub occur on the project site. This community is found between some of the smaller tailing mounds that are more widely spaced, such as those located in the northeastern quadrant of the project site. It also occurs as patchy thickets in the mixed riparian scrub understory. This is a medium-height shrub community dominated by coyote brush (*Baccharis pilularis*), with scattered Fremont cottonwood trees (*Populus fremontii*) and willow shrubs (*Salix* sp.). The annual grassland understory is less dense in this community because of the dense shrub cover.

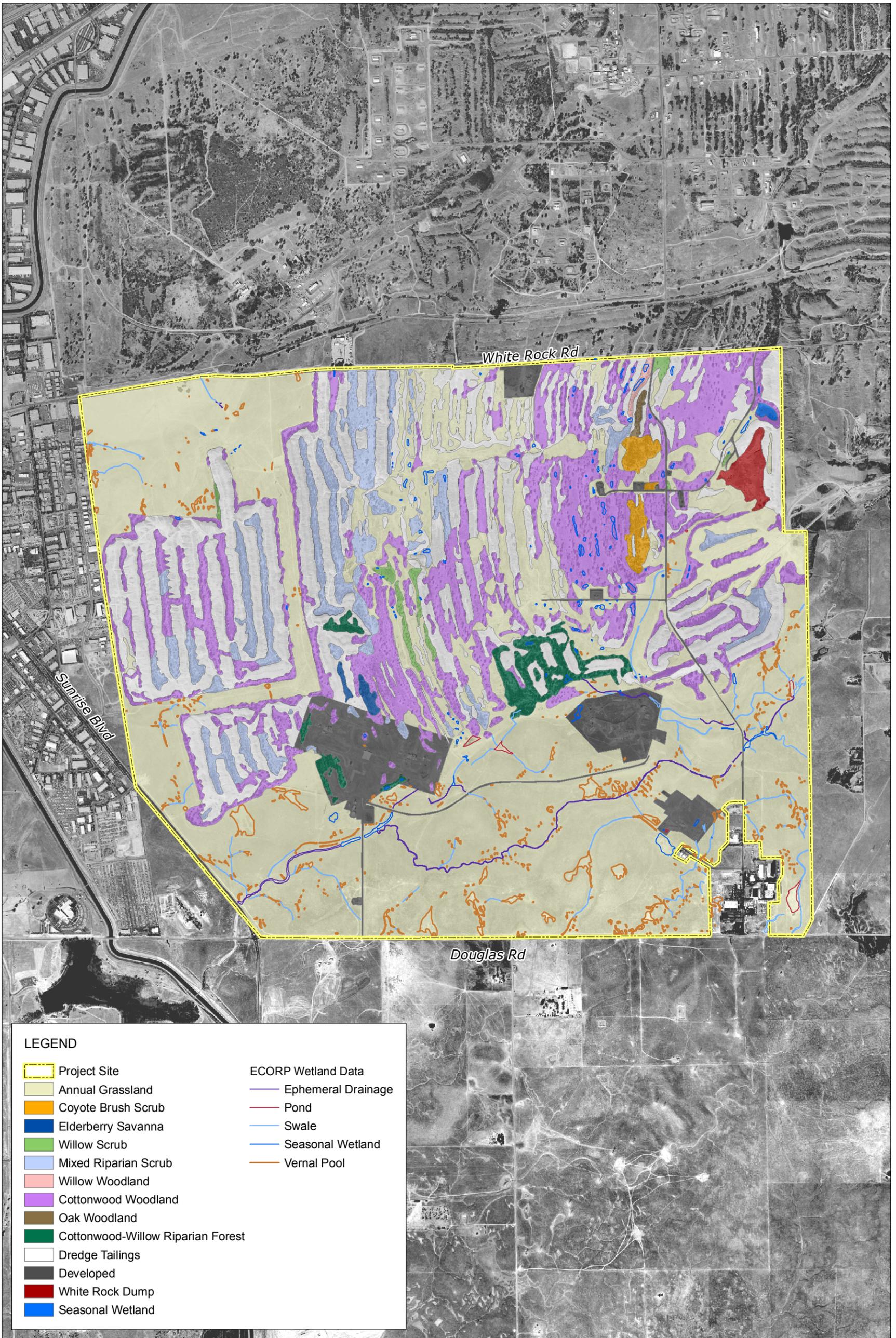
### **Willow Scrub**

Areas of willow scrub vegetation totaling approximately 16 acres occur in basins at the foot of tailing mounds at scattered locations on the project site. This plant community is characterized by relatively dense stands (at least 50% cover) of willow with occasional cottonwood trees. No other trees or shrubs exist in this community. Areas delineated as willow scrub habitat typically consist of even-aged shrubs of arroyo willow (*Salix lasiolepis*). This community consists almost exclusively of willows of similar size and shape, and willow regeneration is generally lacking because the hydrology required for such regeneration appears to be absent; as a result, structural diversity within this habitat type is low.

### **Mixed Riparian Scrub**

Mixed riparian scrub is common in the basins interspersed on the northern half of the site. Approximately 190 acres of this habitat type are present on the project site. Mixed riparian scrub consists of an open tree canopy characterized by Fremont cottonwood and moderate to dense shrub cover (15%–45%) characterized by willows and coyote brush.

Scattered interior live oak (*Quercus wislizenii*) and walnut trees, as well as elderberry shrubs, often exist in this vegetation type. Structural diversity within this habitat type is good because of the variety of shrub sizes and shapes, and the fact that distribution patterns vary from dense shrub thickets to more open stands of shrubs. Although the diversity of plant species within this habitat type is greater than that within most of the habitat types



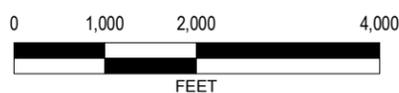
Source: EDAW 2005, Sacramento County 2002, ECORP Consulting 2004(b)

### Habitat Types at the Rio del Oro Project Site

Rio del Oro Specific Plan Project DEIR/DEIS  
City of Rancho Cordova and USACE

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EXHIBIT 3.10-1



at the project site, it is much lower than the diversity of typical mixed riparian habitats that are associated with streams, and an overall lack of tree and shrub regeneration was observed. The hydrologic conditions typically required for regeneration of riparian tree and shrub species appear to be absent.

### **Elderberry Savanna**

Two small basin areas occupying approximately 16 acres in the southwest quadrant of the project site are dominated by elderberry savanna. This plant community is characterized by open stands of elderberry (*Sambucus mexicana*) with an understory of annual grassland. Few living elderberry shrubs remain in these areas and a high percentage of these are senescent, which may indicate a reduction in the shallow groundwater needed to promote growth and propagation of elderberry shrubs. No elderberry regeneration was observed. Total shrub cover in the elderberry savanna on-site is very low (2%–5%) and total tree cover is less than 1%. The majority of the elderberry shrubs observed in this community are dead. A few scattered cottonwood trees exist along the edges of this vegetation community.

### **Willow Woodland**

A single area approximately 4 acres in size that is dominated by willow woodland is located between tailing mounds near White Rock Road in the northeast quadrant of the project site. This plant community is characterized by open stands of willow trees and shrubs; interior live-oak trees exist along the edges of the basin. Structural diversity is moderate because of the varying sizes and shapes of willows, but there are no really large trees (oaks on-site average 25 feet in height and 9 inches dbh) or dense shrub thickets in this area. Willows appear to be healthy and regenerating well in this habitat. Two large pools of water were observed in this habitat type during the time that surveys were conducted for the *Rio del Oro Habitat Assessment* (EDAW 2005) (Appendix E of this draft environmental impact report/draft environmental impact statement [DEIR/DEIS]) and were identified as seasonal wetlands during the wetland delineation that was verified by the U.S. Army Corps of Engineers (USACE) in 2004 (ECORP 2004a).

### **Cottonwood Woodland**

Cottonwood woodland, dominated by Fremont cottonwood, is the most common plant community in the basins between the mounds of tailings. Approximately 597 acres of mostly open cottonwood woodland are present on the project site. A sparse subcanopy consisting primarily of arroyo willow is often found, but it generally does not constitute more than 5% canopy cover. Dense cover, consisting of annual grasses and forbs in the understory, downed trees, and dead tree snags, is a common component of this community. In basins between tall, closely spaced tailing mounds such as those in the western half of the project site, the cottonwood trees and willows that exist in the area are distributed mostly along the basin edges, while open grassland is found on the basin floors. In the eastern half of the project site, where the tailing mounds are lower and more widely spaced, cottonwood trees are distributed more randomly. Structural diversity within this habitat type is low to moderate depending on whether willow shrubs exist in the area. Some seasonal wetlands were mapped within this habitat type, particularly in the eastern half of the project site, during the wetland delineation that was verified by USACE in 2004 (ECORP 2004a), but the hydrology that initially allowed cottonwood woodland to establish here was observed to be absent. Cottonwood trees throughout the cottonwood woodland on the project site appear old and senescent and no cottonwood regeneration was observed in any of this habitat.

### **Oak Woodland**

Oak woodland on the project site is restricted to a 3-acre area located between tailing mounds near White Rock Road in the northeast quadrant. This plant community is characterized by an open tree canopy that consists of interior live oak with scattered foothill pine (*Pinus sabiniana*). The dense shrub layer is dominated by coyote brush with scattered willow and elderberry. A total of 47 oak trees greater than 6 inches dbh have been documented on the project site (Sierra Nevada Arborists 2003). Structural diversity in the oak woodland

community is good because of the variety of species and tree and shrub sizes; however, because of the relative lack of larger diameter trees, the oak woodland on-site would not provide suitable nesting habitat for raptors.

### **Cottonwood–Willow Riparian Forest**

Based on vegetation association, there are approximately 57 acres of cottonwood–willow riparian forest on the project site, primarily among tailing mounds in the southeast quadrant. Three smaller occurrences of this community type are present on the project site, two of which are located within fenced and developed areas that were used previously for rocket testing. The cottonwood–willow riparian forest on the project site is characterized by a dense canopy of Fremont cottonwood trees up to 60 feet tall and willow shrubs and trees up to 15 feet tall. Willow species present include arroyo willow, Pacific willow (*Salix lucida* ssp. *lasiandra*), and sandbar willow (*S. exigua*). Trees and shrubs are well distributed across the basins and the annual grassland understory is less dense because of the dense shrub and tree layers (tree cover averages 35%–40% and shrub cover averages 40%–50%). Areas supporting this plant community appear to be generally wetter than most of the other basins on-site and receive runoff from at least two seasonal drainages. Several areas of pooled water were observed in this community type by EDAW biologists in January 2005. The wet conditions of the site that created this vegetation association in the first place appear to be extant (i.e., still exist, have not been destroyed), and the cottonwood–willow riparian forest in the southeast quadrant would be expected to have a better chance of long-term survival than vegetation associations in other basins on the project site that appear drier.

### **WILDLIFE**

The project site supports an abundant and diverse fauna. This large and mostly contiguous block of open space, dominated by natural plant communities, is particularly important to native grassland wildlife species. The project site provides habitat for both resident breeding and migratory raptors that prefer large tracks of open grassland for foraging. The fragmented and disturbed scrub and woodland communities are attractive to many of the common wildlife species in Sacramento County, as well as a few special-status wildlife species, which are discussed separately below under “Sensitive Biological Resources.”

A few of the many common wildlife species expected to occur on the project site include red-tailed hawk (*Buteo jamaicensis*), coyote (*Canis latrans*), black-tailed hare (*Lepus californicus*), savannah sparrow (*Passerculus sandwichensis*), gopher snake (*Pituophis melanoleucus*), Say’s phoebe (*Sayornis phoebe*), western fence lizard (*Sceloporus occidentalis*), western meadowlark (*Sturnella neglecta*), and western kingbird (*Tyrannus verticalis*).

### **SENSITIVE BIOLOGICAL RESOURCES**

Sensitive biological resources addressed in this section include those that are afforded special protection through the California Environmental Quality Act (CEQA), the California Fish and Game Code (including but not limited to the California Endangered Species Act [CESA]), federal Endangered Species Act (ESA), Clean Water Act (CWA), Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and the *Rancho Cordova General Plan* (City General Plan) (City of Rancho Cordova 2006).

### **Special-Status Species**

Special-status species are defined as species that are legally protected or otherwise considered sensitive by federal, state, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- ▶ species officially listed by the State of California or the federal government as endangered, threatened, or rare;
- ▶ candidates for state or federal listing as endangered, threatened, or rare;

- ▶ taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the State CEQA Guidelines;
- ▶ species identified by the California Department of Fish and Game (DFG) as Species of Special Concern;
- ▶ species afforded protection under local planning documents; and
- ▶ taxa considered by the California Native Plant Society (CNPS) to be “rare, threatened, or endangered in California.” The CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS Inventory) (CNPS 2005) includes five lists for categorizing plant species of concern, which are summarized as follows:
  - List 1A—Plants presumed to be extinct in California
  - List 1B—Plants that are rare, threatened, or endangered in California and elsewhere
  - List 2—Plants that are rare, threatened, or endangered in California but more common elsewhere
  - List 3—Plants about which more information is needed (a review list)
  - List 4—Plants of limited distribution (a watch list)

Plant inventories prepared by CNPS provide one source of substantial evidence that is used by lead agencies to determine what plants meet the definition of endangered, rare, or threatened species, as described in Section 15380 of the State CEQA Guidelines. For purposes of this document, the relevant inventories are List 1B (plants that are rare, threatened, or endangered in California and elsewhere) and List 2 (plants that are rare, threatened, or endangered in California but more common elsewhere). All plants listed in the CNPS Inventory (CNPS 2005) are considered “special plants” by DFG. The term “special plants” is a broad term used by DFG to refer to all of the plant taxa inventoried by the California Natural Diversity Database (CNDDDB), regardless of their legal or protection status. Notation as a List 1B or 2 plant species does not automatically qualify the species as endangered, rare, or threatened within the definition of State CEQA Guidelines Section 15380. Rather, CNPS designations are considered along with other available information about the status, threats, and population condition of plant species to determine whether a species warrants evaluation as an endangered, rare, or threatened species under CEQA. Other sources include consultation with biologists from federal, state responsible, and state trustee agencies with jurisdiction over natural resources of the project site and area; published and unpublished research; field survey records; local and regional plans adopted for the conservation of species (such as habitat conservation plans or natural community conservation plans), other CEQA or National Environmental Policy Act (NEPA) documents; or other relevant information. Plants on Lists 1A, 1B, and 2 of the CNPS Inventory may qualify for listing, and DFG recommends—and local governments may require—that these species be addressed in CEQA projects. However, a plant species need not be in the CNPS Inventory to be considered a rare, threatened, or endangered species under CEQA.

Tables 3.10-1 and 3.10-2 below provide lists of special-status species known to occur or with potential to occur on the project site. This list was developed through a review of biological studies previously conducted on the project site and in the vicinity and observations made during field surveys conducted for this project. The CNDDDB (2005) and CNPS database (CNPS 2005) were also reviewed for specific information on previously documented occurrences of special-status species in the Carmichael and Buffalo Creek USGS quadrangles. A number of special-status species have been documented elsewhere in Sacramento County but are not addressed in this DEIR/DEIS. These include species that occurred historically but are considered to be extirpated from the county; species that are restricted to higher elevations (i.e., foothill locations) in the county; and species that are restricted to habitats that are not present on the project site.

### **Special-status Plants**

Based on review of the CNDDDB and CNPS database searches, previously prepared biological reports for the project, and field surveys conducted by EDAW, it was determined that the project site supports suitable habitat for dwarf downingia, Tuolumne button-celery, Bogg’s Lake hedge hyssop, Northern California black walnut,

**Table 3.10-1  
Special-Status Plant Species Known to Occur or with Potential to Occur on the Project Site**

Species	Status <sup>1</sup>			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFG	CNPS		
<b>PLANTS</b>					
Dwarf downingia <i>Downingia pusilla</i>	--	--	2	Mesic sites in valley and foothill grassland, vernal pools. Blooms March–May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Tuolumne button-celery <i>Eryngium pinnatisectum</i>	--	--	1B	Mesic sites in cismontane woodland and lower montane coniferous forest, vernal pools. Blooms June–August	Unlikely to occur; suitable habitat is present, but the project site is lower than the species' known elevation range, and it was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Bogg's Lake hedge hyssop <i>Gratiola heterosepala</i>	--	E	1B	Marshes and swamps, vernal pools. Blooms April–August	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003). There is a known population approximately 3 miles from the project site.
Northern California black walnut <i>Juglans hindsii</i>	--	--	1B	Riparian scrub, riparian woodland. Blooms April–May	Known to occur; walnut trees were identified at the project site during the tree survey in 2003 (Sierra Nevada Arborists 2003); likely to be hybrids between <i>Juglans hindsii</i> and <i>J. regia</i> .
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	--	--	1B	Mesic valley and foothill grassland. Blooms March–May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP y2003).
Greene's legenerie <i>Legenerie limosa</i>	--	--	1B	Vernal pools. Blooms April–June	Known to occur; three populations were documented on the project site during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Pincushion navarretia <i>Navarretia meyersii</i> ssp. <i>Meyersii</i>	--	--	1B	Vernal pools. Blooms in May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Slender Orcutt grass <i>Orcuttia tenuis</i>	T	E	1B	Vernal pools. Blooms May–October	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).

Table 3.10-1 Special-Status Plant Species Known to Occur or with Potential to Occur on the Project Site					
Species	Status <sup>1</sup>			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFG	CNPS		
Sacramento Orcutt grass <i>Orcuttia viscida</i>	E	E	1B	Vernal pools. Blooms April–July	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Sanford’s arrowhead <i>Sagittaria sanfordii</i>	--	--	1B	Shallow freshwater marshes and swamps. Blooms May–October	Unlikely to occur; suitable habitat may be present in seasonal wetlands and ponds, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Notes: CESA = California Endangered Species Act; CNPS = California Native Plant Society; DFG = California Department of Fish and Game; ESA = Endangered Species Act; USFWS = U.S. Fish and Wildlife Service					
<sup>1</sup> Legal Status Definitions					
U.S. Fish and Wildlife Service:			California Native Plant Society Categories:		
E	Endangered (legally protected)		1B	Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)	
T	Threatened (legally protected)		2	Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)	
California Department of Fish and Game:					
T	Threatened (legally protected)				
E	Endangered				
Sources: ECORP 2003, CNDDDB 2004, CNPS 2004, data compiled by EDAW in 2005					

Table 3.10-2 Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site				
Species	Listing Status <sup>1</sup>		Habitat	Potential for Occurrence
	Federal	State		
<b>BIRDS</b>				
Cooper’s hawk <i>Accipiter cooperii</i>	--	SC	Forages in a variety of woodland and forest habitats	Likely to occur September to April but not expected to nest on-site
Sharp-shinned hawk <i>Accipiter striatus</i>	--	SC	Forages in woodlands; nests in dense coniferous and riparian forest	Likely to occur September to April but not expected to nest on-site
Tricolored blackbird <i>Agelaius tricolor</i>	--	SC	Forages in agricultural land and grasslands; nests in marshes and other areas that support cattails or dense thickets	Likely to occur year-round; suitable habitat present on-site
Short-eared owl <i>Asio flammeus</i>	--	SC	Forages and nests in grasslands and other open habitats	Likely to occur September to April; suitable habitat present on-site
Western burrowing owl <i>Athene cunicularia hypugea</i>	--	SC	Forages and nests in grasslands, agricultural land, and open woodlands	Likely to occur year-round; suitable habitat present on-site

**Table 3.10-2  
Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site**

Species	Listing Status <sup>1</sup>		Habitat	Potential for Occurrence
	Federal	State		
Ferruginous hawk <i>Buteo regalis</i>	--	SC	Forages in grasslands, agricultural fields, and other open habitats; does not nest in California	Known to occur September to April; identified on-site during special-status wildlife surveys by EDAW biologists January 24, 2005
Swainson's hawk <i>Buteo swainsoni</i>	--	T	Forages in grasslands and agricultural land; nests in riparian and isolated trees	Likely to occur March to October; suitable nesting and foraging habitat present
Northern harrier <i>Circus cyaneus</i>	--	SC	Forages and nests in grasslands, marshes, and agricultural areas	Likely to occur year-round; suitable habitat present on-site
White-tailed kite <i>Elanus leucurus</i>	--	FP	Forages in grasslands and agricultural fields; nests in riparian zones, oak woodlands, and isolated trees	Known to occur year-round; identified on-site during special-status wildlife surveys by EDAW biologists January 12, 2005
Merlin <i>Falco columbarius</i>	--	SC	Forages in a variety of open habitats; does not nest in California	Likely to occur September to April; suitable foraging habitat present on-site
Prairie falcon <i>Falco mexicanus</i>	--	SC	Forages in grasslands and other dry, open habitats; nests on cliffs	Known to occur September to April; identified on-site by EDAW biologists January 24, 2005
Loggerhead shrike <i>Lanius ludovicianus</i>	--	SC	Forages and nests in grasslands, shrublands, and open woodlands	Likely to occur year-round; suitable habitat present on-site
<b>MAMMALS</b>				
American badger <i>Taxidea taxus</i>	--	SC	Drier open shrub, forest, and herbaceous habitats with friable soils	Could occur year-round; suitable habitat present on-site
<b>AMPHIBIANS AND REPTILES</b>				
California tiger salamander <i>Ambystoma californiense</i>	T	SC	Vernal pools and other seasonal ponds in valley and foothill grasslands	Unlikely to occur; suitable habitat present on-site but outside of species' known range (USFWS 2004)
Northwestern pond turtle <i>Clemmys marmorata marmorata</i>	--	SC	Freshwater marsh, ponds, lakes, and rivers	Unlikely to occur; no suitable habitat present on-site
Western spadefoot toad <i>Scaphiopus hammondi</i>	--	SC	Vernal pools and other seasonal ponds in valley and foothill grasslands	Likely to occur year-round; suitable habitat present on-site
Giant garter snake <i>Thamnophis gigas</i>	T	T	Freshwater marsh, sloughs, and slow-moving rivers	Unlikely to occur; no suitable habitat present on-site

**Table 3.10-2  
Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site**

Species	Listing Status <sup>1</sup>		Habitat	Potential for Occurrence
	Federal	State		
<b>INVERTEBRATES</b>				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E	--	Large vernal pools in valley grasslands	Likely to occur; suitable habitat present on-site; within species range but not documented on-site during focused surveys (Gibson and Skordal 2000b, 2001)
Longhorn fairy shrimp <i>Branchinecta longiantenna</i>	E	--	Grassland vernal pools; endemic to the eastern margin of the Central Coast mountains in California	Unlikely to occur; outside of species' known range
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T	--	Vernal pools in valley and foothill grasslands	Known to occur; suitable habitat present; documented on-site during focused surveys (Gibson and Skordal 2000b, 2001)
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	--	Elderberry bushes below 3,000 feet in elevation	Likely to occur; suitable habitat present and beetle exit holes identified on-site during focused surveys (Gibson and Skordal 2000a)
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E	--	Vernal pools in valley and foothill grasslands	Known to occur; suitable habitat present; documented on-site during focused surveys (Gibson and Skordal 2000b)
<sup>1</sup> Legal Status Definitions Federal: E Endangered (legally protected) T Threatened (legally protected) State: T Threatened (legally protected) SC Species of Special Concern (no formal protection) FP Fully Protected (legally protected)				
Sources: Gibson and Skordal 2000a, 2000b, 2001; CNDDDB 2004; USFWS 2004; data compiled by EDAW in 2005; Hansen, pers. comm, 2005				

Ahart's dwarf rush, Greene's legenera, pincushion navarretia, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead. Brief descriptions of these species and their potential to occur at the project site are provided in Table 3.10-1.

Protocol-level special-status plant surveys of the project site were conducted on behalf of the applicant by ECORP during spring 2003. These surveys were conducted in accordance with the U.S. Fish and Wildlife Service's (USFWS's) *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*, as well as the guidelines contained in CNPS's *Inventory of Rare and Endangered Plants of California, Sixth Edition*. The results of protocol-level special-status plant surveys are typically considered valid by the resource agencies for a period of approximately 5 years, given that circumstances of the site can be assumed to remain largely unchanged during this amount of time.

During the protocol-level special-status plant surveys, ECORP biologists identified three populations of Greene's legenera (*Legenera limosa*) on the project site. Occurrences of Greene's legenera have also been documented in

the CNDDDB for the project site. No other special-status plant species occurrences were identified on the project site during the ECORP survey or via searches of the CNDDDB and CNPS databases. Bogg's Lake hedge hyssop, Ahart's dwarf rush, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead have all been documented within 3 miles of the project site. These species are associated with vernal pools, seasonal wetlands, or freshwater marshes. Despite known occurrences off-site in the project vicinity and the presence of suitable habitat on-site, these species are not expected to occur on this project site at this time because they were not detected during a special-status protocol-level plant survey conducted during the appropriate blooming periods (ECORP 2003).

A tree survey conducted by Sierra Nevada Arborists (2003) identified Northern California black walnut, a CNPS List 1B species, at the project site. Although there are accounts of this species at the project site, native Northern California black walnut is believed to be extirpated from Sacramento County (CNPS 2001), and any specimens that have been identified may be hybrids between Northern California black walnut and another walnut species, such as English walnut (*Juglans regia*), Eastern black walnut (*Juglans nigra*), or Arizona walnut (*Juglans major*) (Kirk 2003, CNPS 1978). Specimens observed on the project site do not appear to be the species *Juglans hindsii* because they are branched from the base giving the trees a shrub-like appearance. *Juglans hindsii* does not typically form branches less than 9 feet above ground level (CNPS 1978). Only two native populations of *Juglans hindsii* are still in existence (in Napa and Contra Costa counties), but the species has become widely naturalized in riparian areas throughout the Central Valley (Kirk 2003, CNPS 2001). Before 1850, black walnut was reported only from along the Sacramento River near Walnut Grove, Wooden Valley in Napa County, and in the Moraga area of Walnut Creek (Kirk 2003). In the 1860s settlers introduced Eastern black walnut and English walnut and began grafting these species onto the rootstocks of Northern California black walnuts by 1900. Hybrid species of *J. hindsii* are hardier than the native stock and genetic research suggests that naturalized populations of *J. hindsii* have a hybridized heritage and are not genetically pure *J. hindsii* (Kirk 2003).

## Special-status Wildlife

Based on review of the results of a search of DFG's CNDDDB, prior biological surveys conducted for the project site, and the reconnaissance-level survey conducted by EDAW, a list of special-status wildlife species with the potential to occur in the project area was compiled and is presented in Table 3.10-2. Several special-status wildlife species were identified on the project site during surveys performed by Gibson and Skordal and EDAW as noted in Table 3.10-2. On behalf of the project applicant(s), Gibson and Skordal conducted surveys of listed vernal pool branchiopods on an approximately 1,800-acre portion of the approximately 3,828-acre project site during the wet seasons of 2000 and 2001 (Gibson and Skordal 2000b, 2001). The southern portion, including the grassland surrounding Morrison Creek, and the extreme eastern portion of the project site were not included in the surveys. Federally listed branchiopod species identified during the 2000 survey included vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardii*). Vernal pool fairy shrimp were identified in one seasonal depression and vernal pool tadpole shrimp were documented in three seasonal depressions and two seasonal ponds. California linderiella (*Linderiella occidentalis*), a federal species of concern, was also observed during the survey, documented from 83 of the survey pools including seasonal depressions, riparian wetlands, and pond habitats. Vernal pool fairy shrimp and California linderiella were again identified during the 2001 survey. The former was identified in only one seasonal depression while the latter was widespread in the survey area. The survey wetlands supporting vernal pool fairy shrimp and vernal pool tadpole shrimp are located in open grassland habitat adjacent to, but not within, the tailing piles (Gibson and Skordal 2000b).

An elderberry survey of the entire project site was also completed by Gibson and Skordal (2000a). Of the 329 elderberry plants documented, 41 contained beetle exit holes, suggesting that valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB), a federally threatened species, exists on the project site. USFWS released a 5-year status review for VELB on October 2, 2006 (USFWS 2006) determining that this species is likely no longer in danger of extinction, and recommended that the species be delisted and removed from ESA protection. This recommendation is not a guarantee that the species will be delisted. Formal changes in the

classification of listed species requires a separate USFWS rulemaking process distinct from the 5-year review. If VELB are removed from the ESA list, it will likely be more than two years before this decision is finalized.

EDAW wildlife biologists identified three additional special-status species on the project site during reconnaissance-level surveys conducted in support of this analysis. A white-tailed kite (*Elanus leucurus*), a federal species of concern and DFG fully protected species, was observed foraging in annual grassland near the center of the project site. A ferruginous hawk (*Buteo regalis*) and prairie falcon (*Falco mexicanus*), both federal and California species of concern, were observed in the southern portion of the site, in the vicinity of the proposed wetland preserve.

Special-status wildlife occurrences documented in the CNDDDB within a 3-mile radius of the project site, plotted onto an aerial photograph, are shown in Exhibit 3.10-2. Based on CNDDDB data, 17 special-status wildlife species in addition to those identified during surveys were evaluated for their potential to occur on the project site.

The project site provides suitable habitat for numerous special-status birds. Potentially suitable nesting and foraging habitat for Swainson's hawk, a species that is state listed as threatened, is present on the project site. Swainson's hawks nest in riparian and isolated trees and forage in grasslands and agricultural lands. Cooper's hawk, sharp-shinned hawk, tricolored blackbird, short-eared owl, and merlin could all potentially occur on the project site in the winter, as suitable foraging habitat is present. All of these species are California species of concern, and tricolored blackbird is also a federal species of concern. Cooper's hawk has been documented within 3 miles of the project site (Exhibit 3.10-2) (CNDDDB 2004). Although tricolored blackbird is known to nest in this region of Sacramento County, no suitable nesting habitat is present on the project site for this species, which typically nests in marsh habitat or blackberry thickets. Grasslands and open woodlands on the project site provide suitable year-round habitat for western burrowing owl, northern harrier, and loggerhead shrike. Northern harrier is a California species of concern. Western burrowing owl and loggerhead shrike are both federal and California species of concern. Although no burrows, burrowing owls, or signs of burrowing owls were observed during reconnaissance surveys, this species is identified in several locations within 3 miles of the project site in the CNDDDB and could move onto the project site before project implementation.

American badger, a California species of concern, prefers open grassland habitats with friable soils, and an occurrence slightly south of the project site is identified in the CNDDDB (Exhibit 3.10-2). Because there is suitable habitat for American badger on the project site, this species has the potential to occur on the site.

California tiger salamander was recently federally listed as threatened throughout its range (USFWS 2004). This species uses vernal pools and other seasonal ponds for reproduction, and seemingly suitable habitat of this type is present on the project site. However, few burrows or crevices have been identified on the project site that would provide suitable habitat for tiger salamander. In addition, this species is only known to occupy the southern edge of Sacramento County, south of the Cosumnes River (USFWS 2004). Because some of the essential habitat requirements for the species are scarce on the project site, such as underground refuge (crevices and burrows), and the project site appears to be outside of the species range, California tiger salamander is not expected to occur on the project site.

Western spadefoot toad is a federal and California species of concern also associated with vernal pools and other seasonal ponds. Multiple occurrences of western spadefoot toad south of the project site fall within the 3-mile radius shown in Exhibit 3.10-2. Given the presence of suitable habitat on the project site and the proximity of known occurrences of western spadefoot toad, this species is likely to occur on the project site.

Northwestern pond turtle is a federal and California species of concern. Northwestern pond turtle could occur around Mather Lake, southwest of the project site, and is documented north of the site within 3 miles (Exhibit 3.10-2). However, there is no suitable aquatic habitat within the project boundary and pond turtles are unlikely to nest there.

Giant garter snake is federally and state listed as threatened. Giant garter snake is not expected to occur because adequate emergent vegetation required for foraging habitat is lacking on the project site and the wetlands on the project site are likely to dry up before the start of the species' active season (May 1–September 30). The nearest potentially suitable habitat for giant garter snake is Mather Lake, which is located approximately 0.5 mile downstream of the project site.

The seasonal wetland depressions, riparian wetlands, vernal pools, and seasonal ponds on the project site could support vernal pool crustaceans that were not identified during the branchiopod surveys. It is important to note that these surveys did not cover the entire project site (Gibson and Skordal 2000b, 2001). The existing wetland areas provide suitable habitat for federally endangered conservancy fairy shrimp and midvalley fairy shrimp, a federal species of concern. Midvalley fairy shrimp are documented in the CNDDDB as occurring near Mather Lake, slightly southwest of the project site and farther southwest of that point (Exhibit 3.10-2). Although longhorn fairy shrimp, a federally endangered species, was a target species of the branchiopod surveys (Gibson and Skordal 2000b, 2001), it is unlikely to occur on the project site because it is endemic to the eastern margin of the Central Coast mountains in California and has not been documented in Sacramento County (Eriksen and Belk 1999).

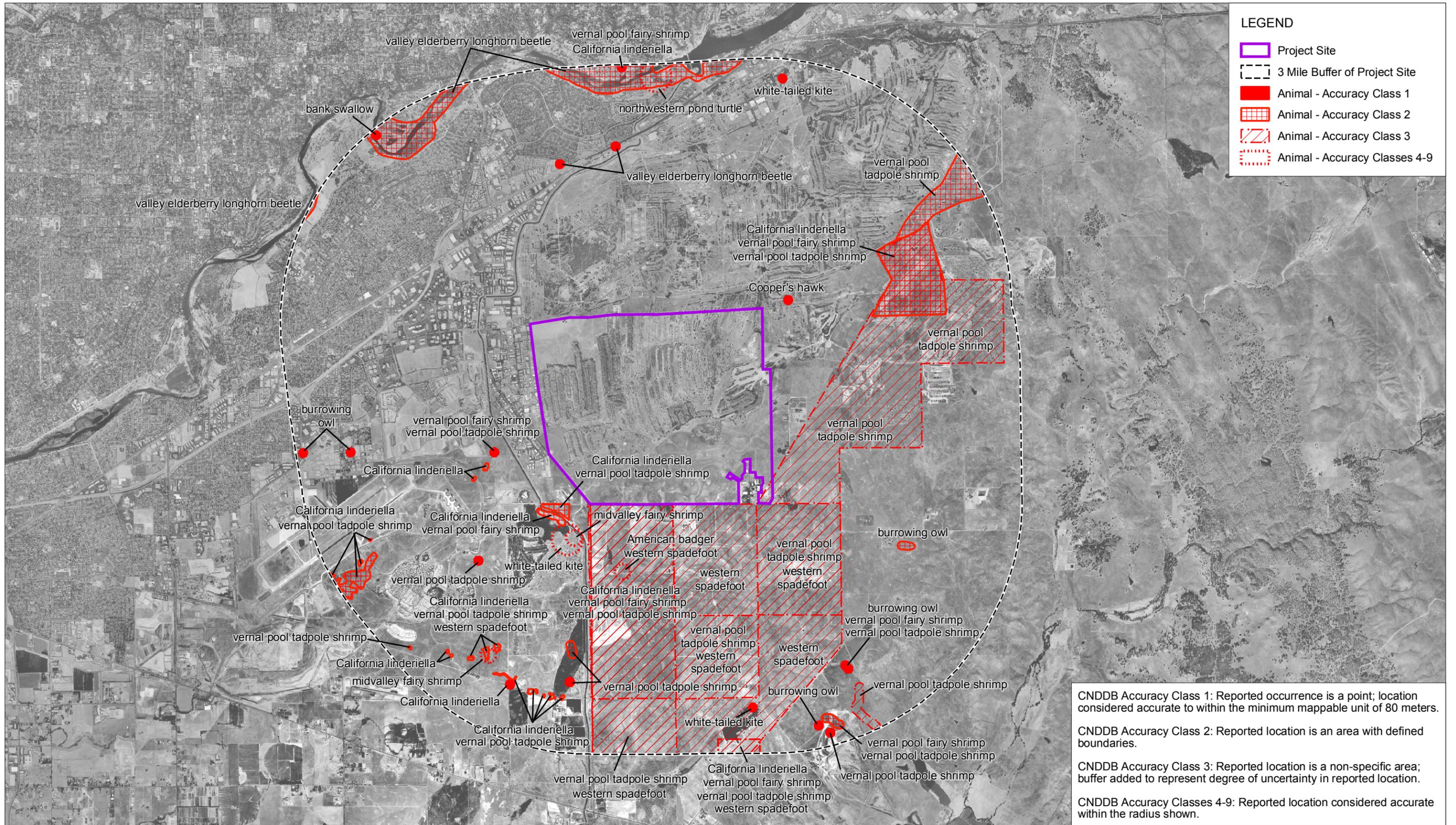
### **Sensitive Habitats**

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the federal Clean Water Act (CWA), and the Porter-Cologne Act, as discussed under “Regulatory Framework” below. Sensitive natural habitat may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Many of these communities are tracked in DFG’s CNDDDB, a statewide inventory of the locations and conditions of the state’s rarest plant and animal taxa and vegetation types. Habitat types on the project site that would be considered sensitive by regulatory agencies include willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, cottonwood–willow riparian forest, vernal pools, seasonal wetland swales, and seasonal wetlands. In addition, the City requires mitigation for oak trees larger than 6 inches or greater dbh or multitrunk native oaks or native trees of 10 inches or greater dbh that have been determined to be in good health (refer to Mitigation Measure 3.10-3).

### **Wetlands and Other Waters of the United States**

A wetland delineation conducted by ECORP in June 2004 and verified by USACE in September 2004 identified a total of 56.632 acres of waters of the United States, including wetlands, on the project site. The site also contains 12.946 acres of wetland habitats, which USACE determined to be nonnavigable, isolated, and intrastate waters with no apparent interstate commerce connection (nonjurisdictional). Although these wetland habitats are not subject to USACE jurisdiction under Section 404 of the CWA, they are considered “waters of the state” under California’s Porter-Cologne Act, and as such are subject to regulation by the Central Valley Regional Water Quality Control Board (RWQCB).

Wetlands on the project site that are subject to USACE jurisdiction include vernal pools, ponds, seasonal wetland swales, and seasonal wetlands. Other waters of the United States identified on the project site consist of seasonal drainages, including Morrison Creek. While these drainages have been described as ephemeral drainages in the wetland delineation and previous reports and maps, the term “seasonal drainages” is used in this analysis to account for the fact that data on the typical flow periods for Morrison Creek and other drainages is not available at this time and it is, therefore, not known whether these drainages would best be classified as ephemeral or intermittent drainages. The locations of wetlands and other waters of the United States, as mapped by ECORP, have been included in Exhibit 3.10-1. The vast majority of the vernal pools and seasonal wetland swales and all of the seasonal drainages are concentrated within the annual grassland habitat in the southern portion of the project site,



Source: CNDDDB 2004, Sacramento County 2002

CNDDDB Special-Status Wildlife Occurrences within 3 miles of Rio del Oro Project Site

EXHIBIT 3.10-2

Rio del Oro Specific Plan Project DEIR/DEIS  
City of Rancho Cordova and USACE

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where approximately 507 acres of habitat are designated as wetland preserve as part of the Proposed Project and High Density Alternatives. The areas designated as wetland preserve under the Proposed Project, High Density, and Impact Minimization Alternatives are depicted in Exhibits 2-4, 2-16, and 2-17, respectively.

Nonjurisdictional wetlands, including vernal pools, seasonal wetland swales, and seasonal wetlands, occur in scattered locations throughout the northern portion of the project site.

### **3.10.2 REGULATORY FRAMEWORK**

Biological resources in California are protected and/or regulated by a variety of federal and state laws and policies. In addition, in many parts of California, there are local or regional habitat and species conservation planning efforts in which a project applicant may participate. Key regulatory and conservation planning issues applicable to the project and alternatives under consideration are discussed below.

#### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

##### **Federal Endangered Species Act**

USFWS and the National Marine Fisheries Service (NMFS) have authority over projects that may result in take of a species listed as threatened or endangered under ESA (i.e., a federally listed species). In general, persons subject to ESA (including private parties) are prohibited from “taking” endangered or threatened fish and wildlife species on private property, and from “taking” endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under ESA, the definition of “take” is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has also interpreted the definition of “harm” to include significant habitat modification that could result in take. If a project would result in take of a federally listed species, either an incidental-take permit, under Section 10(a) of ESA, or a federal interagency consultation, under Section 7 of ESA, is required before the take can occur. Such a permit typically requires various types of mitigation to compensate for or minimize the take.

##### **Section 404 of the Clean Water Act**

Section 404 of the federal CWA establishes a requirement for a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into “waters of the United States,” including wetlands. Fill material means material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land; or changing the bottom elevation of any portion of a water of the United States. Examples of fill material include but are not limited to rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and material used to create any structure or infrastructure in waters of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Under Section 404 of the CWA, USACE regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fill of less than one-half acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE’s nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP or regional general permit require an individual permit.

Before USACE can issue a permit, it must determine that the project is in compliance with CWA Section 404(b)(1), for which EPA has issued guidelines for assessing project alternatives. The Section 404(b)(1) guidelines specifically require that “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences” (Code of Federal Regulations [CFR] Title 40, Section 230.10[a] [40 CFR 230.10(a)]). Based on this provision, the applicant is required in every case to evaluate opportunities for use of nonaquatic areas and other aquatic sites that would result in less adverse impact on the aquatic ecosystem. A permit cannot be issued, therefore, in circumstances where a less environmentally damaging practicable alternative for the proposed discharge exists. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose determined by USACE. If it is otherwise a practicable alternative, an area not presently owned by the project applicant(s) that could reasonably be obtained, used, expanded, or managed to fulfill the basic purpose of the proposed activity may be considered.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in 50 CFR 10.13. The list includes nearly all birds native to the United States. Loss of nonnative species, such as house sparrows, European starlings, and rock pigeons, is not covered by this statute.

### **Executive Order 11990: Protection of Wetlands**

Executive Order 11990 established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

### **Executive Order 11312: Invasive Species**

Executive Order 11312 directs all federal agencies to prevent and control introductions of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversee and facilitate implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

## **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

### **California Endangered Species Act**

Pursuant to CESA and Section 2081 of the California Fish and Game Code, a permit from DFG is required for projects that could result in the take of a state-listed threatened or endangered species (i.e., species listed under CESA), except that plants may be taken without a permit pursuant to the terms of the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).

### **Section 1602 of the California Fish and Game Code**

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFG under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the

natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by DFG, or use any material from the streambeds, without first notifying DFG of such activity and obtaining a final agreement authorizing such activity. “Stream” is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. DFG’s jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A DFG Streambed Alteration Agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

### **Section 401 Water Quality Certification/Porter-Cologne Water Quality Control Act**

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state’s water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine RWQCBs (regional boards). Each of the nine RWQCBs must prepare and periodically update basin plans for water quality control in accordance with the Porter-Cologne Act. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. Under the Porter-Cologne Act, wetlands and drainages that are considered waters of the United States by USACE are often classified as waters of the state as well.

More recently, the appropriate RWQCB has also generally taken jurisdiction over “waters of the state” that are not subject to USACE jurisdiction under the federal CWA, in cases where USACE has determined that certain features do not fall under its jurisdiction. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required.

### **California Fish and Game Code Section 3503.5 (Protection of Raptors)**

Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations include destruction of active raptor nests as a result of tree removal and failure of nesting attempts, resulting in loss of eggs and/or young, because of disturbance of nesting pairs by nearby human activity.

### **California Department of Fish and Game Species Designations**

DFG maintains an informal list of species called “species of special concern.” These are broadly defined as plant and wildlife species that are of concern to DFG because of population declines and restricted distributions, and/or because they are associated with habitats that are declining in California. These species are inventoried in the CNDDDB regardless of their legal status. Impacts on species of special concern may be considered significant.

### **California Native Plant Society Species Designations**

CNPS is a statewide nonprofit organization that seeks to increase understanding of California’s native flora and to preserve this rich resource for future generations. CNPS has developed and maintains lists of plants of special concern in California as described above under “Special-Status Species.” CNPS listed species have no formal legal protection, but the values and importance of these lists are widely recognized. CNPS List 1 and 2 species are considered rare plants pursuant to Section 15380 of CEQA, and it is recommended that they be fully considered during preparation of environmental documents relating to CEQA. The Natural Resources Element of the City General Plan also recognizes CNPS listed species as species warranting special status.

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

### **Rancho Cordova General Plan**

Goals and policies of the City General Plan relating to biological resources that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### **Proposed South Sacramento County Habitat Conservation Plan**

The project site is located within the proposed South Sacramento County Habitat Conservation Plan (SSCHCP) area. The SSCHCP is intended to provide a regional approach to issues related to urban development, habitat conservation, agricultural production, and open-space planning. The SSCHCP would provide strategies to conserve habitat for nine special-status plants and 42 special-status wildlife species. The conservation strategy has four components: conservation (habitat acquisition), restoration, enhancement, and a limited amount of avoidance and minimization. If adopted, it would serve as a multispecies, multihabitat conservation plan addressing the biological impacts of future urban development within the Urban Services Boundary (USB) in the southern portion of the County. The emphasis of the SSCHCP is to secure large, interconnected blocks of habitat that focus on protecting intact subwatersheds while minimizing edge effects and maximizing heterogeneity. Habitat losses within the USB would be offset primarily through the establishment of large preserves outside the USB, but five major vernal pool preserves, including the proposed Rio del Oro preserve, would be established inside the USB as part of the SSCHCP. Habitat mitigation for impacts resulting from a particular project must take place on the same geological formation as the impacted area. As currently conceived, land developers that convert habitat within the USB would pay a defined per-acre fee to mitigate impacts. These fees would be used to protect, restore, maintain, and monitor habitat. The process for developing the SSCHCP was initiated in 1992. The SSCHCP is not scheduled for completion and implementation until sometime after the beginning of 2007.

### **3.10.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

Appendix G of the State CEQA Guidelines and the provisions under 40 CFR 1508.27, as used under NEPA, define what constitutes a significant biological resources impact. Appendix G of the State CEQA Guidelines further defines what constitutes a significant biological resources impact. A biological resources impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS;
- ▶ have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by DFG or USFWS;
- ▶ have a substantial adverse effect on federally protected waters of the United States, including wetlands, as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption or other means;
- ▶ interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- ▶ conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

- ▶ conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan;
- ▶ substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population 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 species; or
- ▶ result in a conversion of oak woodland that would have a significant effect on the environment.

## ANALYSIS METHODOLOGY

This analysis of impacts on biological resources resulting from implementation of the proposed project and alternatives under consideration is based on data collected during reconnaissance-level field surveys, extensive review of existing documentation that addresses biological resources on or near the project site, geographic information systems (GIS) analysis, and data gathered during meetings with the project applicant(s)' biological resources consultant to discuss specific aspects of the proposed mitigation in detail.

Reconnaissance-level field surveys of the project site were conducted by EDAW biologists on December 13, 2004, and January 12 and 13, 2005. The purpose of these surveys was to characterize and map biological resources present on the project site in sufficient detail to support a determination of overall habitat quality. Data collected during the field surveys was compiled in a technical report (EDAW 2005) and used in the development of the Impact Minimization Alternative for this project.

The following documents were reviewed during preparation of this analysis:

- ▶ *Jurisdictional Delineation, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 1999);
- ▶ *Wetland Delineation for Rio del Oro, Sacramento County, California* (ECORP 2004a);
- ▶ *Wetland Resource Assessment for Rio del Oro, Sacramento County, CA* (ECORP 2004b);
- ▶ *Updated Wetland Delineation Map for the Rio del Oro Project Site* (ECORP 2004c);
- ▶ *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 2000a);
- ▶ *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson and Skordal 2000b, 2001);
- ▶ *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Rio del Oro Property* (ECORP 2003); and
- ▶ *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003).

The impact analysis for biological resources was performed at the project level for the entire Rio del Oro Specific Plan area (i.e., project site), because the Section 404 permit process for this project requires a detailed consideration of how the site could ultimately be subdivided. To the degree that subdivision boundaries could be revised in the future, they would need to be compared with the conclusions of this DEIR/DEIS to determine whether impacts have been sufficiently covered.

The project includes the creation of a 507-acre wetland preserve in the southern portion of the project site and the establishment of two open-space preserves that would be used for elderberry mitigation (Exhibit 3.10-3). It also includes the creation of 143 acres of drainage parkways, including 39 acres of stormwater detention basins. The creation of the drainage parkway would entail alteration of the western portion of the current channel of Morrison Creek. Creation of seasonal wetlands and restoration of a limited amount of riparian habitat are proposed as part of the drainage parkway system (ECORP 2005). Although development of the site would occur in distinct phases over time, ultimate buildout of the site would result in retention of little to no existing habitat in its current condition in those portions of the project site slated for urban development. Additionally, the scheduled closure and remediation of White Rock Dump Site No. 1, located within the open-space preserve, would also result in short-term loss of some existing habitat (i.e., elderberry shrubs) (ECORP 2005). It is assumed that the wetland preserve would be created during development Phase 1 and that the mitigation would occur as defined in the

Section 404 permit. Compensatory mitigation would likely be tied to the various phases of development and would be phased in with project implementation.

## IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

### Impacts and Mitigation Measures

To provide a comprehensive approach to the impact analysis and ensure that impacts on resources of concern to more than one agency are discussed together, the impact analysis has been structured to include three broad impact categories: impacts on sensitive habitats, impacts on special-status wildlife, and impacts on special-status plants.

The evaluation of impacts on sensitive habitats incorporates both quantitative and qualitative aspects. Impacts were evaluated by calculating the acreage of each sensitive habitat by land use designation. It is assumed that development in areas that would require grading would result in the elimination of all wetland and other sensitive habitats within that land use designation. Therefore, the only land use designations that would be expected to afford some level of protection for wetland and other sensitive habitats are Wetland Preserve and Open Space/ Preserve (see Exhibit 3.10-3). Sensitive habitats that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative are vernal pool, pond, seasonal wetland and seasonal wetland swale, seasonal drainage, willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, cottonwood–willow riparian forest, and oak woodland. Implementation of the Impact Minimization Alternative would also affect these sensitive habitats, but to a lesser degree than implementation of the Proposed Project Alternative or the High Density Alternative, as discussed below.

Impacts associated with the off-site improvement of infrastructure aspects of the Proposed Project Alternative and all other project alternatives are discussed in Section 3.5, “Utilities and Service Systems,” and have been addressed in previous CEQA documents. Off-site impacts associated with traffic improvements are discussed in Section 3.14, “Traffic and Transportation,” and have been addressed in the environmental document for the City General Plan, prepared separately from this DEIR/DEIS. The City General Plan was adopted on June 26, 2006.

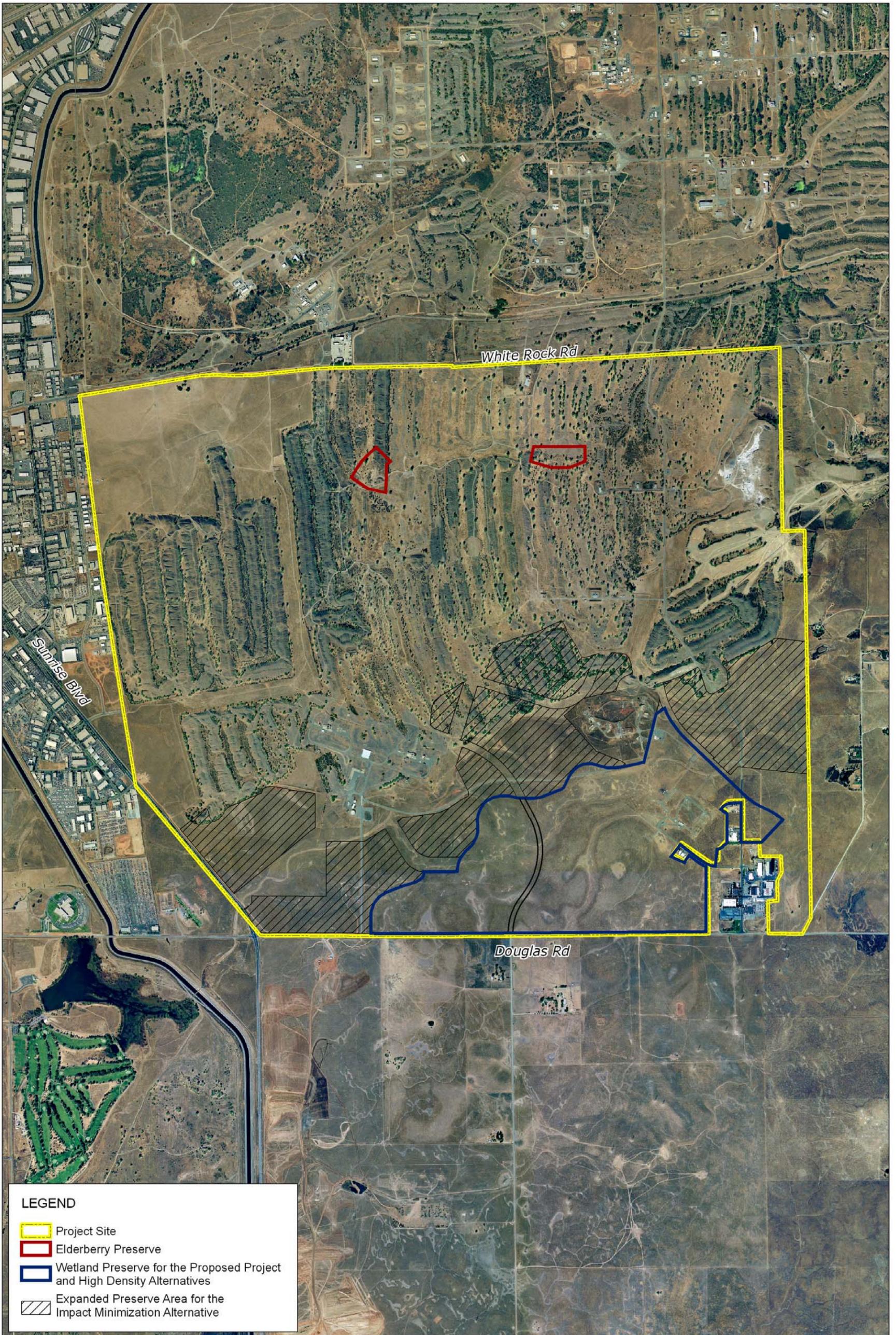
#### IMPACT 3.10-1

**Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State.** *Implementation of the project would result in the placement of fill material into jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the federal Clean Water Act, and the substantial loss and degradation of nonjurisdictional wetland habitats protected under state and local regulations. Wetlands and other waters of the United States that would be affected by project implementation include vernal pools, seasonal wetland swales, ponds, and seasonal drainages.*

#### PP, HD

#### Overall Effects on Jurisdictional Waters of the United States

A total of approximately 30.3 acres of USACE jurisdictional waters of the United States on the project site would be filled, including approximately 17.3 acres of vernal pools, 2.9 acres of pond, 3.5 acres of seasonal wetland swale, 3.1 acres of seasonal wetland, and 3.5 acres of seasonal drainages, including portions of Morrison Creek. In addition, the project would result in indirect impacts on approximately 2.2 acres of vernal pool habitat (assuming that all habitats within 250 feet of development are considered to be affected). The wetland preserve has been configured to minimize the alteration of hydrology to preserved vernal pools by maintaining a 250-foot buffer around existing pools (ECORP 2005).



**LEGEND**

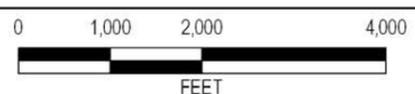
- Project Site
- Elderberry Preserve
- Wetland Preserve for the Proposed Project and High Density Alternatives
- Expanded Preserve Area for the Impact Minimization Alternative

Source: EDAW 2005, Sacramento County 2002, ECRP Consulting 2004(b)

**Proposed Preserves at the Rio del Oro Project Site**

EXHIBIT 3.10-3

Rio del Oro Specific Plan Project DEIR/DEIS  
City of Rancho Cordova and USACE



The Proposed Project and High Density Alternatives would also result in the permanent loss of approximately 12.9 acres of nonjurisdictional wetlands, consisting of vernal pools, seasonal wetlands, and seasonal wetland swales. Although these wetlands are not subject to USACE jurisdiction, they are considered sensitive because they provide potential habitat for the federally listed vernal pool fairy shrimp and vernal pool tadpole shrimp and special-status plant species, provide important ecological values and functions, and are considered waters of the state subject to jurisdiction of the Central Valley RWQCB under the Porter-Cologne Act. Most of the wetlands over which USACE has disclaimed jurisdiction are not considered to support listed species (Gibson & Skordal 2000b, 2001). Seasonal wetlands are also protected under the Natural Resources Element of the City General Plan, which requires no net loss of vernal pools and other wetland habitats, acreage, values, and/or functions.

### Vernal Pools and Other Wetland Habitats within the Proposed Wetland Preserve

Although a substantial loss of wetlands would occur, a portion of the highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would be protected within the proposed 507-acre designated Wetland Preserve. The proposed wetland preserve would connect to the agency-proposed conservation area identified in *A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area* (June 2004) adjacent to the east of the project site, just north of the proposed North Douglas Road. There are no other connections to reserves in the region. Vernal pools and other wetland habitat types within the wetland preserve and on adjacent parcels could be adversely affected by the effects of habitat fragmentation and resulting indirect impacts, including those resulting from the proposed construction of 17.9 acres of vernal pools (plus 2 acres for mitigation of vernal pools not under USACE jurisdiction) proposed as part of the project applicant(s)' wetland mitigation and monitoring plan for this project (ECORP 2005). The current version of the project applicant(s)' proposed wetland mitigation and monitoring plan developed by ECORP, which will be subject to USACE approval, is included in Appendix C of this document.

Habitat fragmentation can result when development occurs within larger regions of natural habitat. The effects of habitat fragmentation can extend beyond the boundaries of an area proposed for development. Changes to the hydrologic pattern, including fragmentation of Morrison Creek, under the Proposed Project Alternative or High Density Alternative could adversely affect the wetlands within the wetland preserve and other off-site wetlands by altering hydration periods. Construction of the proposed extension of Jaeger Road (aka Rancho Cordova Parkway) and other roadway improvements could disrupt or eliminate hydrologic connectivity that is important to support vernal pools and the plant and wildlife species that inhabit the pools. The proposed construction design includes measures to reduce interference with the hydrology that sustains vernal pools on-site, including the use of Con Span Bridge Systems (Exhibits 2-7 and 2-8) as natural substrate span crossings over Morrison Creek. These natural substrate span crossings would also provide for wildlife movement and minimize habitat fragmentation.

### Mitigation and Monitoring Plan

To reduce adverse effects on the aquatic environment, the project applicant(s) would need to implement a mitigation and monitoring plan approved by USACE, the Central Valley RWQCB, and the City. Each of these agencies would have to review and approve those portions of the mitigation and monitoring plan relevant to wetlands subject to their respective regulatory authorities.

The project applicant(s) would be required to begin construction of the mitigation habitats, in accordance with the approved mitigation and monitoring plan, prior to or concurrent with ground-disturbing activities that would adversely affect wetlands. Compensatory mitigation would likely continue to be constructed over time, as the various phases of the project affecting the aquatic environment are approved and move forward and as specified in the approved mitigation and monitoring plan. However, a temporal loss of aquatic functions is still expected to occur, as impacts on aquatic resources in some of the phases could occur before creation of some of the compensatory wetlands and before all of the created mitigation habitats reach their final success criteria and assume their full intended ecological functions.

Following implementation of the mitigation and monitoring plan, long-term ownership of the proposed wetland preserve may be assumed by the City. Management of the preserve would be conducted by a USACE-approved conservation-oriented organization in accordance with a USACE-approved conservation easement and operations and management plan. The project applicant(s) would be required to establish an endowment, or some other financial mechanism that is sufficient to fund management of the preserve in perpetuity.

Once a wetland mitigation and monitoring plan is approved by those agencies with jurisdiction over the plan, or portions of the plan (i.e., USACE, the Central Valley RWQCB, City), successful implementation of the plan is expected to compensate for adverse effects on waters of the United States (30.328 acres), natural wetland resources as required by the Natural Resources Element of the City General Plan, and on nonjurisdictional wetlands, as required by the Central Valley RWQCB. As currently proposed, not all of the mitigation is directly in kind (i.e., 1 acre of a certain habitat created for 1 acre of the same type of habitat eliminated). Additionally, the proposed creation of approximately 20 acres of wetlands within the preserve area would provide less than 1:1 acreage replacement of impacted wetlands. To obtain USACE approval, the project applicant(s) would need to revise their mitigation proposal to include the creation or restoration of in-kind aquatic habitats at a sufficient ratio of created to affected aquatic habitat to offset the functions and values of the aquatic environment that would be lost initially and over time as a result of the project. The proposed mitigation ratio would also need to contain an adequate margin of safety to reflect anticipated success rates of created and restored aquatic habitats and to offset temporal loss of habitat functions. Given the substantial amount of wetland loss (approximately 36.8 acres [23.9 acres jurisdictional wetlands and 12.9 acres nonjurisdictional wetlands] of direct impacts and 2.2 acres of indirect impacts), these impacts would remain significant, as they would contribute significantly to the overall loss and alteration of naturally occurring vernal pool habitat in the county.

### Consistency with the City General Plan

Implementation of the Proposed Project Alternative or the High Density Alternative could also potentially conflict with the Natural Resources Element of the City General Plan, although the ultimate decision on consistency would lie with the City Council. The City General Plan calls for the protection and preservation of Rancho Cordova's natural wetland resources, including vernal pools and other wetland habitats, by ensuring no net loss of values and functions for special-status species (Policy NR 2.1). Goal NR 3 of the City General Plan calls for protection and preservation of stream corridors in their natural state in developed areas and requires that buffer zones be created and protected adjacent to stream corridors and wetlands. Details pertaining to these specific aspects of the operation and maintenance plan will be determined in close cooperation with USACE and USFWS, the agency charged with protecting listed vernal pool species. An operation and maintenance plan that addresses the requirements established in the policies of the City General Plan is being developed by ECORP on behalf of the project applicant(s) as part of the Section 404 permitting process.

## Consistency with the South Sacramento County Habitat Conservation Plan

Project consistency with the SSCHCP is not required under CEQA because the SSCHCP has not been adopted. The SSCHCP is not scheduled for completion and implementation until sometime after the beginning of 2007, and the exact scope and content of the SSCHCP is not known at this time. Therefore, a consistency determination for the project is not appropriate at this time.

If the SSCHCP has been finalized and approved prior to commencement of mitigation pursuant to the mitigation and monitoring plan developed for the project, USACE, the Central Valley RWQCB, and the City may consider (if applicable) modifications to the mitigation and monitoring plan to be consistent with the SSCHCP.

### Summary

The loss and degradation of USACE jurisdictional vernal pools and other wetland habitats under either the Proposed Project Alternative or the High Density Alternative constitutes a substantial adverse effect on federally protected waters of the United States, including wetlands, as defined by Section 404 of the CWA. Removal of nonjurisdictional wetlands on the project site under the Proposed Project Alternative or the High Density Alternative constitutes a substantial adverse effect on sensitive natural communities as identified by DFG and on waters of the state subject to Central Valley RWQCB jurisdiction. Even with creation of the wetland preserve and implementation of a USACE-approved wetland mitigation and monitoring plan, this is considered a **direct** and **indirect significant** impact. *[Similar]*

IM

Impacts on wetlands, waters of the United States, and waters of the state would be considerably less under the Impact Minimization Alternative than under the Proposed Project Alternative or the High Density Alternative because an additional 439.2 acres of grassland habitat that supports vernal pools would be incorporated into the wetland preserve. Approximately 13.5 acres of jurisdictional wetlands would be filled under the Impact Minimization Alternative. That is substantially less than under the Proposed Project Alternative or High Density Alternative, which would directly affect approximately 24 acres of jurisdictional wetlands and 6.5 acres of other waters.

Approximately 13 acres of nonjurisdictional wetlands would still be removed under the Impact Minimization Alternative, which is the same amount as under the Proposed Project and High Density Alternatives. Losses of both jurisdictional wetland and nonjurisdictional wetland acreage under the Impact Minimization Alternative would be compensated through the creation of seasonal wetlands and vernal pools within the wetland preserve. The proposed location and sizes of vernal pools to be created as mitigation would be designed to match the footprints of previously existing wetland features that are visible on historic aerial photographs of the project site. In addition, a total of 30 acres of wetland habitat would be preserved under the Impact Minimization Alternative.

Implementation of USACE-approved wetland mitigation is expected to reduce impacts on both jurisdictional and nonjurisdictional wetlands to a less-than-significant level; therefore, a **direct less-than-significant** impact would occur.

Indirect effects would be similar to those discussed above under the Proposed Project and High Density Alternatives; however, establishment of a larger wetland preserve would create a greater buffer area around some of the wetlands in the preserve, which would reduce but not eliminate disturbance to wetlands. Therefore, the Impact Minimization Alternative would result in **indirect significant** impacts. *[Lesser]*

NF

Implementation of the No Federal Action Alternative would not result in fill of jurisdictional waters of the United States, including wetlands, subject to USACE jurisdiction under the Clean Water Act. Therefore, the No Federal Action Alternative would result in **no direct** impacts on jurisdictional waters of the United States. In contrast, the Proposed Project and High Density Alternatives would result in fill of approximately 30.3 acres of jurisdictional waters of the United States, and the Impact Minimization Alternative would result in fill of approximately 13 acres of jurisdictional waters of the United States. Similar to the Impact Minimization Alternative, the No Federal Action Alternative would preserve a larger proportion of the vernal pool complex within the project site, further minimize the perimeter/area ratio reducing potential edge effects, provide a larger buffer to minimize impacts of adjacent land uses, and preserve a greater portion of upland habitat to support species that utilize both vernal pool and upland habitats and provide ecological services to vernal pool species. Unlike the other alternatives, the No Federal Action Alternative would eliminate the development of roads through the wetland preserve area. Under the Impact Minimization Alternative, however, the overall wetland preserve area would be greater (994.5 acres) than under the No Federal Action Alternative (871.5 acres) because a greater amount of surrounding upland habitat would be added to the preserve area providing a larger buffer area around wetland habitats and providing greater habitat heterogeneity. The total wetland preserve area would be 507 acres under the Proposed Project and High Density Alternatives.

The No Federal Action Alternative could result in **indirect significant** impacts on jurisdictional waters from the discharge of stormwater runoff directly into Morrison Creek and adjacent wetlands, because this alternative does not propose an adequate storm drainage design. As discussed above in Section 2.7.4, “Drainage, Hydrology, and Water Quality,” it might not be possible to construct the necessary drainage facilities in a way that would be practicable and feasible; because of this uncertainty, this indirect impact would remain **significant and unavoidable**.

The No Federal Action Alternative would result in the filling of approximately 12.9 acres of nonjurisdictional wetlands, consisting of vernal pools, seasonal wetlands, and seasonal wetland swales considered waters of the state and subject to Central Valley RWQCB regulation. Implementation of the No Federal Action Alternative constitutes the same **significant impacts** on nonjurisdictional wetlands as the other action alternatives.

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities are proposed to avoid all wetlands and vernal pools.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect USACE jurisdictional wetlands and other waters of the United States or other wetland habitats protected by state and local regulations; thus, **no direct or indirect** impacts would occur. [*Lesser*]

**Mitigation Measure 3.10-1a: Secure Clean Water Act Section 404 Permit and Implement All Permit Conditions, and Ensure No Net Loss of Wetlands, Other Waters of the United States, and Associated Functions and Values.**

PP, HD, IM

Before the approval of grading and improvement plans and before any groundbreaking activity associated with each distinct project phase, the project applicant(s) for each project phase requiring the fill of wetlands or other waters of the United States or waters of the state shall obtain all necessary permits under Sections 401 and 404 of the CWA or the State's Porter-Cologne Act for the respective phase. The project applicant(s) shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with USACE, the Central Valley RWQCB, and the Natural Resources Element of the City General Plan) the acreage of all wetlands and other waters of the United States subject to USACE jurisdiction and waters of the state subject to RWQCB jurisdiction and the City General Plan that would be removed, lost, and/or degraded with implementation of project plans for that phase. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the Central Valley RWQCB, and the City, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.

To accomplish this mitigation, the project applicant(s) shall take the following steps:

- ▶ As part of the Section 404 permitting process, a draft wetland mitigation and monitoring plan has been developed for the project (Appendix C) by ECORP on behalf of the project applicant(s). Before any ground-disturbing activities that would adversely affect wetlands and before engaging in mitigation activities associated with each phase of development, the project applicant(s) shall submit the draft wetland mitigation and monitoring plan to USACE, the Central Valley RWQCB, and the City for review and approval of those portions of the plan over which they have jurisdiction. Once the mitigation and monitoring plan is approved and implemented, mitigation monitoring will continue for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the performance standards identified in the approved mitigation and monitoring plan have been met, whichever is longer.

The plan shall be prepared to the satisfaction of the City, in accordance with the City's Grading and Erosion Control Ordinance, as well as to the satisfaction of those agencies with jurisdiction over all or portions of the plan.

- ▶ In conjunction with preparation and implementation of an approved wetland mitigation and monitoring plan, the project applicant(s) shall prepare and submit plans for the creation of jurisdictional waters of the United States, including wetlands, at an adequate mitigation ratio to offset the aquatic functions and values that would be lost at the project site, account for the temporal loss of habitat, and contain an adequate margin of safety to reflect anticipated success. The mitigation and monitoring plans must demonstrate how the aquatic functions and values that would be lost through project implementation will be replaced. The habitat mitigation and monitoring plan for jurisdictional wetland features will need to be consistent with USACE's December 30, 2004, *Habitat Mitigation and Monitoring Proposal Guidelines*. The wetland mitigation and monitoring plan shall also mitigate impacts on vernal pool and seasonal wetland habitat, and shall describe specific method(s) to be implemented to avoid and/or mitigate any off-site project-related impacts. The wetland creation section of the habitat mitigation and monitoring plan shall include the following:
  - target areas for creation;
  - a complete biological assessment of the existing resources in the target areas;

- specific creation and restoration plans for each target area;
  - performance standards for success that will illustrate that the compensation ratios are met; and
  - a monitoring plan, including schedule and annual-report format.
- For each phase of development, including off-site project-related impacts, the project applicant(s) shall secure the permits and regulatory approvals described below and shall implement all permit conditions. For each respective phase, all permits, regulatory approvals, and permit conditions for effects on wetland habitats shall be secured before implementation of any grading activities within 250 feet of waters of the United States or wetland habitats, including waters of the state, that potentially support federally listed species. The setback may be reduced to a distance approved by the City and USFWS if a wetland avoidance plan is developed and implemented by a qualified biologist. The wetland avoidance plan must be approved by USFWS and the City and shall demonstrate that all direct and indirect impacts on wetlands will be avoided. Project phases in upland areas with no wetlands or waters of the United States within 250 feet, and no overland hydrologic flow patterns, the disturbance of which may affect such waters, may begin construction before these particular permits are obtained. Buffers around wetlands that do not support federally listed species shall be a minimum of 50 feet from the edge of these features in accordance with conditions of the NPDES permit and associated best management practices (BMPs).
- Authorization to place dredged or fill material into waters of the United States shall be secured from USACE through the CWA Section 404 permitting process before any fill is placed in jurisdictional wetlands or other waters of the United States. USACE has determined that the project will require an individual permit. In its final stage and once approved by USACE, the proposed mitigation and monitoring plan for the project is expected to detail proposed wetland restoration, enhancement, and/or replacement activities that would ensure no net loss of aquatic functions and values in the project vicinity. Approval and implementation of the wetland mitigation and monitoring plan shall fully mitigate all impacts on jurisdictional waters of the United States, including jurisdictional wetlands. In addition to USACE approval, approval by the City and the Central Valley RWQCB, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes, will also be required. To satisfy the requirements of the City and the Central Valley RWQCB, mitigation of impacts on nonjurisdictional wetlands beyond the jurisdiction of USACE shall be included in the same mitigation and monitoring plan. All mitigation requirements determined through this process shall be implemented before grading plans are approved. Wetland mitigation must be approved before any impacts on wetlands commence.
  - Water quality certification pursuant to Section 401 of the CWA will be required before issuance of a Section 404 permit. Before construction in any areas containing wetland features, the project applicant(s) shall obtain water quality certification for the applicable phase of the project. Any measures required as part of the issuance of water quality certification shall be implemented.

If Section 401 and 404 permit requirements ensure no net loss of all wetland features, including vernal pools, and these requirements are addressed before any ground-disturbing activities, no additional mitigation will be required by the City. Written approval from the City indicating that these requirements fulfill all no-net-loss obligations must be obtained before the approval of grading

or improvement plans or any ground-disturbing activities in any project phase containing wetland features.

**Timing:** Before the approval of grading or improvement plans or any ground-disturbing activities for any project development phase containing wetland features. The mitigation and monitoring plan must be approved before any impact on wetlands can occur. Mitigation shall be implemented on an ongoing basis throughout and after construction, as required.

**Enforcement:** U.S. Army Corps of Engineers, Sacramento District; Central Valley Regional Water Quality Control Board; and City of Rancho Cordova Planning Department, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes and in compliance with the City's Grading and Erosion Control Ordinance.

**NF** The project applicant(s) for all project phases shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with the Central Valley RWQCB and the Natural Resources Element of the City General Plan) the acreage of all waters of the state. Waters of the state include all nonjurisdictional wetlands that would be removed, lost, and/or degraded with implementation of project plans for that phase that require permitting from the resource agencies. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to the Central Valley RWQCB and the City.

**NP** No mitigation measures are required.

**Mitigation Measure 3.10-1b: Include in Drainage Plans All Wetlands that Remain On-Site.**

**PP, HD, IM, NF** To minimize indirect effects on water quality and wetland hydrology, the project applicant(s) of each project phase shall include drainage plans in their improvement plans and shall submit the drainage plans to the City Public Works Department for review and approval. Before approval of these improvement plans, the project applicant(s) for all project phases shall commit to implement all measures in their drainage plans to avoid and minimize erosion and runoff into Morrison Creek and all wetlands that would remain on-site. Appropriate runoff controls such as berms, storm gates, detention basins, overflow collection areas, filtration systems, and sediment traps shall be implemented to control siltation and the potential discharge of pollutants. For runoff during construction, see Section 3.4, "Drainage, Hydrology, and Water Quality," for a further discussion of the NPDES (Stormwater Pollution Prevention Plan).

The project shall result in no net change to peak flows into Morrison Creek and associated tributaries. The project applicant(s) shall establish a baseline of conditions for drainage on-site. The baseline-flow conditions shall be established for 2-, 5-, 10-, and 20-year storm events. These baseline conditions shall be used to develop monitoring standards for the stormwater system on the project site. The baseline conditions, monitoring standards, and a monitoring program shall be submitted to USACE and the City for their approval. The engineered channel and detention basins shall be designed and constructed to ensure that the performance standards are met. The discharge site into Morrison Creek and associated tributaries shall be monitored to ensure that preproject conditions are being met. Corrective measures shall be implemented as necessary. The mitigation measures will be satisfied when the monitoring standards are met for 5 consecutive years without undertaking corrective measures to meet the performance standard.

**Timing:** Before approval of improvement and drainage plans, and on an ongoing basis throughout and after project construction, as required for all project phases.

**Enforcement:** U.S. Army Corps of Engineers, Sacramento District; and City of Rancho Cordova Public Works and Planning Departments.

NP No mitigation measures are required.

Implementation of Mitigation Measures 3.10-1a and 3.10-1b would reduce **direct** significant impacts on jurisdictional wetlands and other waters of the United States and waters of the state resulting from the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level. Under the Impact Minimization and No Federal Action Alternatives, a much larger area of vernal pool habitat would be preserved. Under the No Federal Action Alternative, no waters of the United States or wetlands subject to USACE jurisdiction under the CWA would be filled. However, **indirect** impacts would remain **significant and unavoidable** for the proposed project and all alternatives under consideration, except for the No Project Alternative, for the following reasons:

- ▶ The extent of habitat loss and degradation is extensive and contributes significantly to the loss of this habitat type in the region.
- ▶ Vernal pools and other wetland habitats within the wetland preserve and on adjacent parcels could be adversely affected by habitat fragmentation and indirect impacts for which no feasible mitigation measures are available.

**IMPACT  
3.10-2**

**Loss and Degradation of Sensitive Natural Communities.** *Implementation of the project would result in the substantial loss and degradation of riparian habitat and other natural communities considered sensitive by state and local resource agencies and requiring consideration under CEQA. Sensitive natural communities that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative include willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, and cottonwood–willow riparian forest.*

**PP, HD Riparian Habitat**

Riparian habitat that would be lost as a result of implementation of the Proposed Project Alternative or the High Density Alternative includes 16 acres of willow scrub, 190 acres of mixed riparian scrub, 4 acres of willow woodland, 597 acres of cottonwood woodland, and 57 acres of cottonwood–willow riparian forest. The majority of the riparian habitat acreage on the project site consists of trees and shrubs that have reached senescence (i.e., the growth phase in which the plant proceeds from full maturity to death) and do not exhibit regeneration of riparian vegetation.

Small areas within these riparian habitats include seasonal wetlands and support healthy and vigorous riparian vegetation, but most of the riparian vegetation on the site is slowly dying off. The hydrology that supports regeneration of riparian vegetation is lacking from most of the riparian habitat areas, and the riparian vegetation is not associated with streambeds and banks as generally required for jurisdiction under Section 1602 of the California Fish and Game Code. Thus, impacts on a majority of this habitat are not considered significant. The exceptions are the willow woodland and cottonwood–willow riparian forest habitat. The cottonwood–willow riparian forest more closely resembles typical riparian habitats associated with streams. Some of the cottonwood–willow riparian forest habitat receives runoff from seasonal drainages, and several areas of pooled water, including some seasonal wetlands, were observed in this habitat type during winter 2004–2005. The 57 acres of cottonwood–willow riparian forest on the project site provide the highest habitat value and function of all of the riparian habitat types present. The 4 acres of willow woodland contained two large pools of water during surveys in January 2005 and appeared to support growth and regeneration of willows. The willow woodland does not provide the same habitat value as the cottonwood–willow riparian forest because structural diversity is lower; it is a smaller, more isolated patch; and it is not supported by seasonal drainages.

Although they are not directly associated with drainages on the project site, portions of the riparian habitats provide important functions and values for wildlife (e.g., nesting, foraging, and shelter), and DFG would likely consider these impacts on important wildlife habitat when it reviews the project as a trustee agency under CEQA. In addition, DFG would evaluate any riparian habitat associated with the historical floodplain of Morrison Creek when it evaluates project requirements resulting from issuance of a streambed alteration agreement under Section 1602 of the California Fish and Game Code for modifications to portions of Morrison Creek. Riparian scrub, woodland, and forest communities are identified as sensitive natural communities by DFG because of their declining status statewide and because of the important habitat values they provide to both common and special-status plant and animal species. These habitat types are tracked in the CNDDDB.

Removal of riparian habitat is considered a significant impact, regardless of how the habitat was formed, because these riparian habitat types are dwindling native vegetation communities (Marr, pers. comm., 2005). Removal of functionally intact riparian habitat such as the cottonwood–willow riparian forest and the willow woodland (approximately 61 acres total) would be considered a significant impact. Goal NR.1 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of “large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors.” Those portions of the on-site riparian habitat that provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats, would be subject to this policy.

Most of the riparian habitat that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative has been subjected to varying degrees of disturbance from mining, cattle grazing, and other land uses over time. In some cases these uses may have diminished the overall value of these habitats to wildlife as well as their importance to some special-status species. However, these activities, particularly mining (which increased the site’s topographical relief), promoted growth and expansion of these habitats on the project site in the first place. Regardless of how these habitats established, they currently provide habitat for a variety of common and special-status wildlife and possibly meet the criteria for protection under the California Fish and Game Code. Under the Proposed Project and High Density Alternatives, creation of 12.3 acres of riparian habitat is the only proposed mitigation for riparian habitat. The creation of 12.3 acres would partially compensate for the loss of biologically valuable riparian habitat under this alternative. Removal of the riparian habitat present on the project site constitutes a substantial adverse effect on sensitive natural communities for purposes of CEQA. Thus, loss or disturbance of riparian habitat would be considered a **direct** and **indirect significant** impact.

*[Similar]*

#### Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Implementation of the Proposed Project Alternative or the High Density Alternative would result in the loss of 16.5 acres of elderberry savanna. Elderberry savanna is considered a sensitive natural community as identified by DFG and is tracked in the CNDDDB because elderberry shrubs are the host plant for valley elderberry longhorn beetle (VELB), a species that is federally listed as threatened. To minimize potential effects on VELB, two elderberry preserve areas, designated as Open Space/Preserve, would be established on the project site (Exhibit 3.10-3). The elderberry preserves would be located on land designated under the specific plan as Open Space/Preserve and would be maintained as such in perpetuity. There are currently 38 elderberry shrubs within the two 10- and 14-acre designated preserve areas. All 16 existing elderberry shrubs in the designated western preserve area would be preserved. The 22 existing elderberry shrubs in the designated preserve area that currently contains White Rock Dump No. 1 would have to be replanted because

the majority of the shrubs would be displaced because of dump closure activities. Closure of White Rock Dump No. 1 requires a cap of clean soil to a depth of 5 feet, requiring that all elderberry shrubs be removed. The elderberry shrubs located in areas proposed for development would be relocated to the elderberry preserve areas. Elderberry shrubs removed as part of the closure of White Rock Dump No. 1 would be replaced after the preserve is created. Elderberry seedlings and associated natives would be planted in the elderberry preserve areas and within the proposed drainage corridors.

A VELB mitigation plan is currently being developed through ESA Section 7 consultation with USFWS. Implementation of this plan, as discussed under Mitigation Measure 3.10-4b, would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. Mitigation measures in the plan include on-site preservation, transplanting, and seedling plantings within the two proposed preserves at ratios agreed upon by USFWS. Implementation of the mitigation plan with such measures (once approved) is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. *[Similar]*

## IM Riparian Habitat

Impacts on riparian habitat under the Impact Minimization Alternative would be considerably less than those under the Proposed Project Alternative or the High Density Alternative because 37.29 acres of cottonwood–willow riparian forest and 20.77 acres of cottonwood woodland located adjacent to annual grassland–vernal pool habitat would be incorporated into the wetland preserve. As discussed above, the cottonwood–willow riparian forest was determined to have the greatest overall biological value of all the riparian communities present at the project site (EDAW 2005).

The areas added to the wetland preserve under the Impact Minimization Alternative were selected because they were identified as the most biologically valuable habitat on the project site based on several habitat assessment criteria: presence/absence of special-status species, relative level of disturbance, presence/absence of permanent or temporary surface water, size of habitat area, surrounding habitat types, and continuity with other natural communities and other areas proposed for preservation (EDAW 2005). Other riparian habitat types in the project site (willow scrub, mixed riparian scrub, willow woodland, and cottonwood woodland) are not considered as biologically valuable as the cottonwood–willow riparian forest. They are more isolated from other natural communities, structural diversity within these communities is relatively low, and supporting hydrology necessary for regeneration of riparian plant species appears to be lacking from most of the sites where these riparian communities are located.

In general, riparian vegetation on the project site, with the exception of cottonwood–willow riparian forest included in the additional acreage proposed for incorporation into the wetland preserve under this alternative, consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation.

The Impact Minimization Alternative would result in impacts on willow scrub, mixed riparian scrub, and cottonwood woodland similar to the those of the Proposed Project and High Density Alternatives; however, under this alternative, 37.29 acres of the most biologically valuable riparian habitat on the project site would be added to the preserve in addition to the 12.3 acres of riparian habitat that would be created under the Proposed Project and High Density Alternatives. The combined total of riparian habitat acreage that would be restored or preserved on-site under the Impact Minimization Alternative is 49.59 acres (approximately 11.4 acres of impact would still require mitigation).

Although the total acreage of riparian habitat that would be lost would not be reduced significantly under the Impact Minimization Alternative, the majority of riparian habitat that is still functioning and regenerating would be preserved. Incorporating this riparian community into the wetland preserve would increase the overall biological value of the preserve as a whole: It would provide a larger contiguous habitat patch, trees and shrubs that provide wildlife cover and nesting and roosting opportunities for raptors and other bird species would be adjacent to foraging habitat, and there would be greater buffer areas between urban development and wildlife habitat. Therefore, **direct** impacts would be **less than significant**.

Indirect effects would be similar to those discussed above for the Proposed Project and High Density Alternatives. Although less than under the Proposed Project and High Density Alternatives, **indirect** impacts on sensitive habitats would be considered **significant** under this alternative. [*Lesser*]

#### Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Impacts on 16.5 acres of elderberry savanna and scattered elderberry shrubs throughout the site would remain the same under the Impact Minimization Alternative as under the Proposed Project and High Density Alternatives. A VELB mitigation plan similar to that developed for the Proposed Project and High Density Alternatives would be developed for this alternative. As discussed above, implementation of the mitigation plan (once approved by USACE) is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. [*Similar*]

NF

#### Riparian Habitat

The No Federal Action Alternative would result in similar direct impacts on riparian habitat as the Proposed Project and High Density Alternatives. A small amount of riparian habitat that is within the 250-foot wetland buffer would be preserved under this alternative, including 2.93 acres of cottonwood–willow riparian forest and 2.15 acres of cottonwood woodland. A much larger portion of the cottonwood–willow riparian forest habitat (37.29 acres) would be preserved under the Impact Minimization Alternative than under the No Federal Action Alternative. Preservation of a total of 5.08 acres of riparian habitat and creation of 12.3 acres of riparian habitat would partially compensate for the loss of biologically valuable riparian habitat under this alternative. Removal of the riparian habitat present on the project site constitutes a substantial adverse effect on sensitive natural communities for purposes of CEQA. Thus, loss or disturbance of riparian habitat would be considered a **direct** and **indirect significant** impact. [*Similar*]

#### Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Impacts on 16.5 acres of elderberry savanna and scattered elderberry shrubs throughout the site would remain the same under the No Federal Action Alternative as under the Proposed Project, High Density, and Impact Minimization Alternatives. Section 10 consultation with USFWS would be required for potential impacts on VELB habitat (i.e., elderberry shrubs) and the projects applicant(s) would be required to develop a habitat conservation plan, or participate in the SSCHCP if available, to mitigate impacts on elderberry shrubs. Implementation of an independent habitat conservation plan, once approved by USFWS, or participation in the SSCHCP, is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. [*Similar*]

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would avoid riparian habitat and other sensitive natural communities.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect riparian habitats or other sensitive natural communities; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

#### Mitigation Measure 3.10-2a: Secure and Implement Section 1602 Streambed Alteration Agreement.

PP, HD, IM A Section 1602 Streambed Alteration Agreement from DFG will be required for construction affecting the bed and bank of Morrison Creek. As a condition of issuance of the Streambed Alteration Agreement, the project applicant(s) for all project phases shall prepare a habitat mitigation and monitoring plan. The wetland mitigation and monitoring plan currently being developed may be suitable to DFG, if it is expanded to adequately cover impacts on the stream channel of Morrison Creek and impacts on riparian habitats at adequate ratios as determined by DFG, subject to limitations on its authority set forth in Fish and Game Code Section 1600 et seq.

Any conditions of issuance of the Streambed Alteration Agreement shall be implemented as part of project construction activities that adversely affect the bed and bank and current and historic riparian habitat associated with Morrison Creek that is within the area subject to DFG jurisdiction. The agreement shall be executed by the project applicant(s) and DFG before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the bed and bank of Morrison Creek and its associated current and historic riparian habitat.

**Timing:** Before the approval of grading or improvement plans or any construction activities (including clearing and grubbing) that affect the bed and bank or current and historic riparian habitat associated with Morrison Creek.

**Enforcement:** California Department of Fish and Game.

NF No mitigation measures are required because the No Federal Action Alternative would not result in alteration to the bed or bank of Morrison Creek. Therefore, a Streambed Alteration Agreement from DFG would not be needed as it would under the action alternatives.

NP No mitigation measures are required.

#### Mitigation Measure 3.10-2b: Preserve, Restore, or Create Riparian Habitat at Satisfactory Ratio to Fulfill Local Planning Framework Requirements.

PP, HD, IM Goal NR.1, Policy NR 1.9 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of “large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors.” Portions of the on-site riparian habitat such as the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub have been determined to provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats. To implement Goal NR.1, a habitat mitigation and monitoring plan shall be developed and implemented to replace the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub at no-net-loss acreage

to preserve the overall habitat functions and values. Elements of the habitat mitigation and monitoring plan may include habitat preservation on-site, enhancement of on-site riparian habitat types, or enhancement or protection of habitat off-site. The specific ratios of habitat lost to habitat created shall be determined by the City in consultation with DFG as a trustee agency protecting the wildlife resources of the state. The ratios shall be consistent with the City's policy and shall be adequate to protect and preserve the diverse resources in the City.

Any conditions of issuance of the riparian mitigation and monitoring plan shall be implemented as part of project construction activities that adversely affect riparian habitat. The riparian habitat mitigation and monitoring plan shall be developed by the project applicant(s) and submitted to the City before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the cottonwood willow riparian woodland and willow scrub on-site. The cottonwood-willow riparian forest habitat and willow woodland shall be either preserved or replaced on- or off-site on a no-net-loss basis because it provides functioning riparian habitat that is self-sustaining at the present time. If preservation of this on-site habitat type is chosen, the hydrology that supports this habitat must also be preserved to ensure the long-term viability of this habitat type.

The remainder of the riparian habitat on the project site consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation. Because of the poor quality of the majority of the riparian habitat on the project site, the project mitigation for this riparian habitat shall be limited to the replacement and/or restoration of its current function and value (which consists of nesting and foraging habitat for raptors and other birds, as well as foraging habitat and shelter for numerous common wildlife species) as determined acceptable to the City in consultation with DFG as a trustee agency.

**Timing:** Before the approval of grading or improvement plans or any construction activities and before removal of any riparian vegetation as required for any project phase.

**Enforcement:** City of Rancho Cordova Planning Department in consultation with California Department of Fish and Game.

NF No mitigation measures are required because the No Federal Action Alternative would not result in adverse effects on riparian habitat in addition to those habitats protected and addressed under City policy.

NP No mitigation measures are required.

All of the riparian habitat present on the project site would be removed under the Proposed Project and High Density Alternatives. Most of the riparian habitat developed as a result of human alteration to the natural landscape, is likely not self-sustaining, and may not contain all the functions and values of naturally occurring, self-sustaining riparian habitat. However, the removal of riparian habitat under these alternatives would still constitute a significant loss of a sensitive habitat type that currently serves as habitat for numerous wildlife species. In its current (draft) version, the wetland mitigation plan (Appendix C) developed by ECORP, on behalf of the project applicant(s) calls for the creation of only a small amount (12.6 acres) of riparian habitat. This habitat would be created along the proposed drainage parkways and thus would be subject to intrusion by humans and domestic animals. Preservation and restoration of a much smaller amount of natural riparian habitat associated with appropriate portions of the realigned Morrison Creek or other drainage ways, and restoration of natural riparian habitat, would provide better quality habitat for wildlife in the long term. Therefore, with implementation of Mitigation Measures 3.10-2a and 3.10-2b, the direct and indirect impacts under the Proposed Project and High Density Alternatives would remain **significant and unavoidable**. Under the Impact

Minimization Alternative, direct impacts on riparian habitat would be reduced to a **less-than-significant** level with implementation of an adequate and successful mitigation plan, and the most biologically valuable riparian habitat would be preserved. Indirect impacts on riparian habitat under the Impact Minimization Alternative would be similar to those under the Proposed Project and High Density Alternatives and would remain **significant and unavoidable**.

**IMPACT  
3.10-3**

**Loss of Oak Woodland and Individual Oak Trees.** *Project implementation would result in the loss of 3 acres of oak woodland habitat and would include the removal of 47 individual native oak trees with a diameter at breast height (dbh) of 6 inches or greater.*

PP, HD, IM,  
NF

Under the Proposed Project Alternative, the High Density Alternative, or the Impact Minimization Alternative, 3 acres of oak woodland and a total of 47 native oak trees that qualify for protection or mitigation under the County Tree Ordinance (because they have a dbh of 6 inches or greater) would be removed from the project site.

The City has not yet established a tree ordinance and defers to the County Tree Ordinance when addressing impacts on trees within the City's sphere of influence (Amrhein, pers. comm., 2005). Goal NR.4 of the Natural Resources Element of the City General Plan calls for protection and preservation of tree resources. City Policies NR 4.1 and NR 4.2 call for preservation and protection of native oak habitats and native oak and landmark trees. Action NR 4.1.1 calls for establishment of guidelines that require avoidance of oak habitat to the maximum extent feasible and mitigation that would result in preservation of in-kind habitat within the City's sphere of influence where avoidance of oak habitat is not feasible. Action NR 4.1.2 calls for adoption and maintenance of a City Tree Preservation Ordinance, but as mentioned above, such an ordinance has not yet been developed by the City.

Without proper mitigation, removal of oak woodland habitat and individual oak trees would conflict with local ordinances, specifically the County Tree Ordinance. Therefore, a **direct and significant** impact would occur.

**No indirect** impacts on oak woodland, native oak trees, or other native tree species are expected to occur as a result of implementation of the Proposed Project Alternative, No Federal Action Alternative, the High Density Alternative, or the Impact Minimization Alternative. [*Similar*]

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would avoid the oak woodland habitat and most of the individual native trees on the project site.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect oak woodland or individual native trees; thus, **no direct or indirect** impacts would occur. [*Lesser*]

**Mitigation Measure 3.10-3: Perform Tree Survey and Avoid or Replace Native Oak Trees and Other Native Trees Scattered Throughout the Project Site.**

PP, HD, IM,  
NF

Before the approval of any development in areas identified to contain trees, the City shall require that a determinate survey of tree species and size be performed. If any native oaks or other native trees of 6 inches or greater dbh, multitrunk native oaks or native trees of 10 inches or greater dbh, or nonnative trees of 18 inches or greater dbh that have been determined by a qualified professional to be in good health are found to exist in the development area, such trees shall be

avoided if feasible. If such trees cannot feasibly be avoided, the project applicant(s) for all project phases containing trees shall do one of the following:

- ▶ All such trees that will be removed or otherwise damaged by project implementation shall be replaced at an inch-for-inch ratio. A replacement tree planting plan shall be prepared by a qualified professional or licensed landscape architect and shall be submitted to the City for approval before removal of trees; OR
- ▶ The project applicant(s) shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City by a method comparable to an inch-by-inch replacement. The mitigation plan shall be subject to City approval.

Trees mitigated through implementation of mitigation measures associated with riparian habitat impacts shall not be subject to this mitigation measure. If the City adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.

**Timing:** Before the approval of any development in any project phase that contains areas that have been identified to contain trees.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.10-3 would reduce the significant impact of loss of oak woodland and individual oak trees under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.10-4**

**Loss and Degradation of Habitat for Special-Status Wildlife.** *Implementation of the project would result in the loss and degradation of habitat for a number of special-status wildlife species, including vernal pool invertebrates, VELB, Swainson's hawk, and other raptors.*

PP, HD

Development under the Proposed Project Alternative or the High Density Alternative would result in an increase in development and human population that would result in adverse effects on a number of special-status wildlife species. Special-status wildlife listed under ESA that could be substantially affected by the Proposed Project and High Density Alternatives include vernal pool fairy shrimp, vernal pool tadpole shrimp, conservancy fairy shrimp, and VELB. Significant impacts on Swainson's hawk, listed under CESA as threatened, could also result. Impacts on these five listed species would be considered significant and are discussed in detail below. Impacts on nesting and foraging habitat for special-status raptors would also be considered significant. Impacts on all other special-status wildlife species would be considered less than significant.

**Federally Listed Vernal Pool Invertebrates**

Suitable habitat for three federally listed vernal pool invertebrates is present on the project site. The vernal pool fairy shrimp and vernal pool tadpole shrimp have been identified in vernal pools located along the outer edges of the project site. Potential habitat for conservancy fairy shrimp is also present on the project site. Vernal pool tadpole shrimp and conservancy fairy shrimp are federally listed as endangered. Vernal pool fairy shrimp is federally listed as threatened.

The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) was released by USFWS on December 15, 2005. This plan features 33 species of plants and animals that occur exclusively or primarily within vernal pool ecosystems, including the federally listed vernal pool fairy shrimp and tadpole shrimp. The plan outlines recovery priorities and provides goals, objectives, strategies, and criteria for recovery. One of the overall objectives of the recovery plan is to promote natural ecosystem processes and functions by protecting and conserving intact vernal pools and vernal pool complexes. Habitat protection under the recovery plan includes the protection of the topographic, geographic, and edaphic features that support hydrologically interconnected systems of vernal pools, swales, and other seasonal wetlands within an upland matrix that together form hydrologically and ecologically functional vernal pool complexes.

Vernal pool habitat in the southern portion of the project site is within the Mather Core Area identified in the Recovery Plan. Core areas are the specific sites USFWS has deemed necessary to recover federally endangered and threatened vernal pool species or to conserve federal species of concern, based on the premise that these areas represent viable populations or will contribute to habitat connectivity and therefore increase opportunities for dispersal and genetic exchange. Recovery efforts are to be focused on the core areas within each vernal pool region. Core areas are further ranked in Zone 1, 2, or 3 in order of their overall priority for recovery. The Mather Core Area is ranked in Zone 1 meaning it has the highest priority for recovery. Protection of Zone 1 core areas has been designated as a Priority 1 action by USFWS because they believe that within each Zone 1 core area, protection of species occurrences and suitable vernal pool habitat is necessary to prevent extinction or irreversible decline of at least one species covered in the recovery plan. Percent of suitable habitat that must be protected within each vernal pool region and core area ranges from 85 to 95% for federally listed vernal pool invertebrates within the Mather Core Area. Habitat to be protected includes both occupied and unoccupied suitable habitat that serves as corridors for dispersal, opportunities for metapopulation dynamics, reintroduction/introduction sites, and protection of undiscovered populations. Because accurate mapping is currently unavailable and the vernal pool recovery plan is not mandated, project consistency cannot be determined. However, USFWS will likely consider the recently released recovery plan during Section 7 consultation for the project.

Implementation of the Proposed Project or the High Density Alternatives would permanently remove approximately 23.9 acres of jurisdictional wetland and 12.9 acres of nonjurisdictional wetland considered potential habitat for federally listed vernal pool invertebrates. In addition to the direct removal of potential habitat, the Proposed Project and High Density Alternatives are expected to have indirect impacts on potential habitat for federally listed vernal pool invertebrates (see Impact 3.10-1 for a description of potential indirect impacts on vernal pools and other wetland habitats).

The Proposed Project and High Density Alternatives include a 507-acre wetland preserve that would provide some level of protection to a portion of the project site that contains the highest quality and density of vernal pools and seasonal wetlands. Wetland acreages within the wetland preserve that provide potential habitat for federally listed vernal pool invertebrates include 18.2 acres of vernal pools, 2.4 acres of seasonal wetland swale, and 3.3 acres of seasonal wetland. In addition, the Proposed Project and High Density Alternatives include creation of approximately 17.9 acres of vernal pools that could provide habitat for federally listed vernal pool invertebrates in the future. The purpose of establishing the wetland preserve is to preserve and enhance existing wetland function and values; however, there are no assurances that this goal can be achieved, and given the large anticipated increase in urbanization on the adjacent land, indirect impacts on potential habitat for federally listed vernal pool invertebrates are expected. Therefore, implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on federally listed vernal pool invertebrates.

## Valley Elderberry Longhorn Beetle

VELB is federally listed as threatened, though in October 2006 its “delisting” was proposed. It is not known whether the species occurs on the project site, but because the site is within the range of the species and suitable habitat is present (e.g., elderberry shrubs), it is assumed that the species could be present. A total of 329 elderberry shrubs were identified on the project site in 2000 (Gibson & Skordal 2000a). A total of 291 elderberry shrubs would be directly affected by project implementation because they would be removed from their present locations. Exit holes, which may have been created by the beetle and suggest the presence of the beetle, were found on 41 of the shrubs.

Two elderberry preserve areas, designated as Open Space/Preserve, would be established on the project site (Exhibit 3.10-3). There are currently 38 elderberry shrubs within the two 10- and 14-acre designated preserve areas. All 16 existing elderberry shrubs in the designated western preserve area would be preserved. The 22 existing elderberry shrubs in the designated preserve area that currently contains White Rock Dump No. 1 would have to be replanted because the majority of the shrubs would be displaced because of dump closure activities. Closure of White Rock Dump No. 1 requires a cap of clean soil to a depth of 5 feet, requiring that all elderberry shrubs be removed. The elderberry shrubs located in areas proposed for development would be relocated to the elderberry preserve areas. Elderberry shrubs removed as part of the closure of White Rock Dump No. 1 would be replaced after the preserve was created. Elderberry seedlings and associated natives would be planted in the elderberry preserve areas and within the proposed drainage corridors.

Although the status of VELB on the project site is not known, relocating the shrubs to land designated as Open Space/Preserve would not be expected to result in any measurable benefit to the species because the conservation areas would eventually be surrounded by development and isolated from larger areas of potential habitat. Furthermore, there are no assurances that the open space/preserve land would be managed in a manner that would promote the long-term viability of the shrubs. Therefore, as long as VELB remains a species considered threatened under the ESA, implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on VELB. [*Similar*]

## Swainson's Hawk and Other Raptors

Swainson's hawk, a species state listed as threatened, is one of a number of raptors known or expected to occur on the project site. Swainson's hawk is the only listed raptor species expected on the project site, but all raptors and their nests are protected under the California Fish and Game Code and some are considered California species of special concern. The Swainson's hawk is a migratory species that can be found on the project site and in the immediate vicinity during the nesting season. It has not been documented nesting on the project site, but suitable nesting habitat is present. Other raptors that could nest on the project site include American kestrel, red-tailed hawk, red-shouldered hawk, white-tailed kite, northern harrier, western burrowing owl, great horned owl, and barn owl. The project site also provides potential foraging habitat for raptors that winter in the project vicinity. Raptors that are known to occur or expected to occur on the project site during winter months, but that are expected to be absent during the breeding season, include prairie falcon, sharp-shinned hawk, Cooper's hawk, ferruginous hawk, merlin, and short-eared owl.

Implementation of the Proposed Project Alternative or the High Density Alternative would have a substantial adverse effect on both foraging and nesting habitat for raptors. The 1,950 acres of grassland habitat present on the project site is considered foraging habitat for raptors.

Implementing the Proposed Project Alternative or the High Density Alternative would not only remove foraging and nesting habitat; it would also fragment the remaining habitat in the vicinity of the project site. Large raptors generally require large areas of suitable foraging habitat. Thus, implementation of the Proposed Project Alternative or the High Density Alternative could eventually lead to the permanent displacement of some raptors from the project site. Therefore, the Proposed Project and High Density Alternatives would result in **direct** and **indirect significant** impacts on Swainson's hawk and other raptors. *[Similar]*

IM

Impacts under the Impact Minimization Alternative would be reduced substantially from those under the Proposed Project and High Density Alternatives because the size of the wetland preserve would be increased to 994.5 acres under this alternative, as opposed to 507 acres under the Proposed Project and High Density Alternatives. The total wetland acreage in the wetland preserve would increase from 26.63 acres to 42.53 acres. Direct impacts on federally listed vernal pool invertebrates would be reduced because land that is proposed under the Proposed Project and High Density Alternatives for single-family residential and other land uses resulting in the removal of existing habitat would be incorporated into the wetland preserve. The highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would receive additional protection because the width of the buffer between urban development and the most important vernal pool and seasonal wetland habitat would increase. Impacts on VELB, Swainson's hawk, and other raptors would also be reduced, but to a lesser extent. Although impacts would be reduced, implementation of the Impact Minimization Alternative would still result in **direct** and **indirect significant** impacts. *[Lesser]*

NF

Impacts under the No Federal Action Alternative would be reduced substantially from those under the Proposed Project and High Density Alternatives because the size of the wetland preserve (designated as Natural Resources) would be increased to 871.5 acres under this alternative, as opposed to 507 acres under the Proposed Project and High Density Alternatives. The total wetland acreage in the wetland preserve would increase from 26.63, under the Proposed Project and High Density Alternatives, acres to 56.63 acres under the No Federal Action Alternative. Direct impacts on federally listed vernal pool invertebrates would be reduced because vernal pool habitat on land that is proposed under the other action alternatives for single-family residential and other land uses resulting in the removal of existing habitat would be incorporated into the Natural Resources area designated as wetland preserve under the Proposed Project, High Density, and Impact Minimization Alternatives. The highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would receive additional protection because this alternative provides a 250-foot buffer between urban development and the most important vernal pool and seasonal wetland habitat. The Impact Minimization Alternative would provide a larger wetland preserve area (994.5 acres) overall than the No Federal Action Alternative, but the total amount of wetland habitat preserved would increase by 14.1 acres under this alternative. Impacts on VELB under the No Federal Action Alternative would be similar to those under the Proposed Project and High Density Alternatives because elderberry shrubs on the project site are located primarily outside of the areas that would be included in the Natural Resources area. Under the No Federal Action Alternative a lesser, but still substantial amount of nesting and foraging habitat for Swainson's hawk and other raptors would be removed than under the Proposed Project and High Density Alternatives because of the increased size of the designated Natural Resources area. The Impact Minimization Alternative would preserve 123 acres more of nesting and foraging habitat than the No Federal Action Alternative. Implementation of the No Federal Action Alternative would result in direct and **indirect significant** impacts. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. The *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) and the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) contain mitigation measures that would reduce potentially significant impacts on VELB habitat and Swainson's hawk habitat to a less-than-significant level.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect sensitive species or habitats; thus, **no direct or indirect** impacts would occur. [*Lesser*]

**Mitigation Measure 3.10-4a: Secure Take Authorization for Federally Listed Vernal Pool Invertebrates and Implement Permit Conditions.**

PP, HD, IM No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a biological opinion (BO) has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including conservation and minimization measures) intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction, a detailed monitoring plan, and reporting requirements.

The project applicant(s) for all project phases shall identify mitigation for the impacts on vernal pools and other seasonal wetland habitats that support or potentially support federally listed vernal pool invertebrates that will ensure no net loss of habitat (acreage and function) for these species in the Laguna Formation. The project applicant(s) shall complete and implement a habitat mitigation and monitoring plan that will compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat mitigation and monitoring plan shall be consistent with guidance provided in *Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office, California* (USFWS 1996) and the SSCHCP or shall provide an alternative approach that is acceptable to the City, USACE, and USFWS and accomplishes no net loss of habitat.

The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a conservation easement acceptable to USACE, the City, and USFWS.

The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.

A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, "Drainage, Hydrology, and Water Quality," for the details of BMPs to be implemented.

**Timing:** Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the mitigation plan, BO, and/or BMPs.

**Enforcement:** U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; and City of Rancho Cordova Planning Department.

NF

The project applicant(s) for all project phases shall obtain an incidental take permit under Section 10(a) of ESA. No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a BO has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including all conservation and minimization measures). Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction.

Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on federally listed vernal pool invertebrates, or participate in the SSCHCP, if available. The project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that shall compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat conservation plan shall be consistent with the goals of the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) and must be approved by USFWS.

The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a fee title or conservation easement acceptable to the City and USFWS.

The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation in support of a lesser indirect impact distance. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.

A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, "Drainage, Hydrology, and Water Quality," of this DEIR/DEIS for the details of BMPs to be implemented.

**Timing:** Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the habitat conservation plan, BO, and/or BMPs.

**Enforcement:** U.S. Fish and Wildlife Service and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

**Mitigation Measure:** Implement Mitigation Measures 3.10-1a and 3.10-1b.

PP, HD, IM Mitigation Measures 3.10-1a and 3.10-1b are discussed above under Impact 3.10-1.

NF, NP No mitigation measures are required.

**Mitigation Measure 3.10-4b: Obtain Incidental Take Permit for Impacts on Valley Elderberry Longhorn Beetle.**

PP, HD, IM No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including conservation and minimization measures, intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.

Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 7 consultation process with USFWS, but shall be a minimum of “no net loss.” A VELB mitigation plan is currently being developed through ESA Section 7 consultation with USFWS. The mitigation plan will also address the proposed delisting of VELB and any mitigation to be implemented if the delisting occurs prior to project implementation due to requirements under CEQA. Implementation of this plan would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. A copy of the USFWS-approved mitigation plan shall be submitted to the City before the approval of any grading or improvement plans or any ground-disturbing activities within 100 feet of VELB habitat for all project phases.

Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.

**Timing:** Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the mitigation plan and/or BO.

**Enforcement:** U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; California Department of Fish and Game (if VELB delisted); and City of Rancho Cordova Planning Department.

NF As long as VELB remains a species protected under ESA, the project applicant(s) shall obtain an incidental take permit under Section 10(a) of ESA for VELB. No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including all conservation and minimization measures. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.

Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on VELB, or participate in the SSCHCP, if available. If participation in the SSCHCP is not available or not chosen, the project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that will compensate for the loss of VELB habitat. Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 10(a) consultation process with USFWS, but shall be a minimum of “no net loss.” Based on the current (dated) knowledge of the number of shrubs on-site and the latest VELB preservation guidelines, it is expected that approximately 3,088 seedlings would need to be planted over an area of approximately 25 acres to fulfill VELB mitigation requirements and no net loss of habitat.

Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.

**Timing:** Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the habitat conservation plan and/or BO.

**Enforcement:** California Department of Fish and Game (if VELB delisted), U.S. Fish and Wildlife Service, and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

**Mitigation Measure 3.10-4c: Conduct Preconstruction Surveys for Nesting Raptors and, if Found, Establish Appropriate Buffers.**

PP, HD, IM, NF To mitigate impacts on Swainson’s hawk and other raptors (including burrowing owl) for all project phases, the project applicant(s) shall retain a qualified biologist to conduct preconstruction surveys and to identify active nests on and within 0.5 mile of the project site and active burrows on the project site. The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction for all project phases. To the extent feasible, guidelines provided in *Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in the Central Valley* (Swainson’s Hawk Technical Advisory Committee 2000) shall be followed. If no nests are found, no further mitigation is required.

If active nests are found, impacts on nesting Swainson's hawks and other raptors shall be avoided by establishment of appropriate buffers around the nests. No project activity shall commence within the buffer area until a qualified biologist confirms that any young have fledged and the nest is no longer active. DFG guidelines recommend implementation of 0.25- or 0.5-mile buffers, but the size of the buffer may be adjusted if a qualified biologist and the City, in consultation with DFG, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.

If active burrows are found, a mitigation plan shall be submitted to the City for review and approval before any ground-disturbing activities. The City shall consult with DFG. The mitigation plan may consist of installation of one-way doors on all burrows to allow owls to exit, but not reenter, and construction of artificial burrows within the project vicinity, as needed. If active burrows contain eggs and/or young, no construction shall occur within 50 feet of the burrow until young have fledged. Once it is confirmed that there are no owls inside burrows, these burrows may be collapsed.

**Timing:** Before the approval of grading and improvement plans, before any ground-disturbing activities, and during project construction as applicable for all project phases.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

#### Mitigation Measure 3.10-4d: Prepare and Implement a Swainson's Hawk Mitigation Plan.

PP, HD, IM, NF The project applicant(s) for all project phases shall implement one of the following measures:

- ▶ Before the approval of grading and improvement plans or before any ground-disturbing activities, whichever occurs first, the project applicant(s) shall preserve, to the satisfaction of the City, suitable Swainson's hawk foraging habitat to ensure 1:1 mitigation of habitat value for Swainson's hawk foraging habitat lost as a result of the project, as determined by the City in consultation with DFG and a qualified biologist.

The 1:1 habitat value shall be based on Swainson's hawk nesting distribution and an assessment of habitat quality, availability, and use within the City's Planning Area. If specific data for Rancho Cordova's Swainson's hawk habitat is not available at the time that this mitigation measure is being implemented, the mitigation ratio shall be consistent with the 1994 DFG Swainson's Hawk Guidelines included in the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California*. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area and within Sacramento County. The City, in consultation with DFG, will determine the appropriateness of the mitigation land.

Before approval of such proposed mitigation, the City shall consult with DFG regarding the appropriateness of the mitigation. If mitigation is accomplished through conservation easement, then such an easement shall ensure the continued management of the land to maintain Swainson's hawk foraging values, including but not limited to ongoing agricultural uses and the maintenance of all existing water rights associated with the land. The conservation easement shall be recordable and shall prohibit any activity that substantially impairs or diminishes the land's capacity as suitable Swainson's hawk habitat.

The project applicant(s) shall transfer said Swainson's hawk mitigation land, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and DFG named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, in consultation with DFG. The City, in consultation with DFG and the Conservation Operator, shall approve the content and form of the conservation easement. The City, DFG, and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to assure compliance with the terms of the easement.

The project applicant(s), in consultation with the City, DFG, and the Conservation Operator, shall establish an endowment or some other financial mechanism that is sufficient to fund in perpetuity the operation, maintenance, management, and enforcement of the conservation easement. If an endowment is used, the endowment funds shall either be submitted to the City to be distributed to an appropriate third-party nonprofit conservation agency, or they shall be submitted directly to the third-party nonprofit conservation agency in exchange for an agreement to manage and maintain the lands in perpetuity. The Conservation Operator shall not sell, lease, or transfer any interest of any conservation easement or mitigation land it acquires without prior written approval of the City and DFG.

If the Conservation Operator ceases to exist, the duty to hold, administer, manage, maintain, and enforce the interest shall be transferred to another entity acceptable to the City and DFG. The City Planning Department shall ensure that mitigation habitat is properly established and is functioning as habitat by conducting regular monitoring of the mitigation site(s) for the first 10 years after establishment of the easement. OR

- ▶ The project applicant(s) may participate in a future City Swainson's Hawk Foraging Habitat Ordinance (once adopted) as an alternative to the measure above. OR
- ▶ The project applicant(s) may participate in a future habitat conservation plan (once adopted) as an alternative to the above measures.

**Timing:** Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that would affect Swainson's hawk foraging habitat.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measures 3.10-4a, 3.10-4b, 3.10-4c, 3.10-4d, and 3.10-1a and 3.10-1b (listed previously), would lessen significant direct and indirect impacts on special-status wildlife resulting from the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives; however, this impact would remain **significant and unavoidable** because the removal of approximately 3,300 acres of potential habitat for special-status wildlife and the associated fragmentation of surrounding potentially suitable habitat cannot be fully mitigated.

Impacts on special-status wildlife species could be fully mitigated only through a combination of habitat preservation and restoration in the vicinity of the project site. Parcels of similar habitat quality are currently present in the project vicinity, but these parcels would be of lesser value following development of the project because of the effects of habitat fragmentation and secondary impacts related to the project. Moreover, there

would be a net loss of approximately 3,300 acres of potential habitat for special-status species regardless of the acreage preserved. Therefore, fully compensating for the impact by preserving existing habitat in the project vicinity is infeasible. The mitigation does include elements of habitat creation and enhancement that would increase the habitat value of preserved lands so that mitigation habitat could be of greater value than habitat lost and degraded, but there is not sufficient undeveloped land in the project vicinity to offset the effects of habitat fragmentation on special-status species, and thus, fully mitigate the impact.

**IMPACT  
3.10-5**

**Loss and Degradation of Special-Status Plants and Habitat for Potential Special-Status Plants.**

*Implementation of the project would result in direct and/or indirect impacts on three populations of Greene's legenera and in the removal of vernal pool grassland, seasonal wetland, and riparian habitat on the project site that have the potential to support special-status plant species.*

**PP, HD**

Three populations of Greene's legenera were identified at the project site during protocol-level surveys conducted by ECORP in spring 2003. The special-status plant surveys were conducted in accordance with the *USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), as well as the Guidelines contained in the *CNPS Inventory of Rare and Endangered Plants of California, Sixth Edition* (CNPS 2001). Protocol-level plant surveys are typically considered valid for 5 years. One population is located within the proposed wetland preserve, but it could potentially be affected by either removal or habitat modification from construction of Rancho Cordova Parkway, which would graze the east side of the vernal pool where this population occurs. The other two populations occur within seasonal wetland habitat along a portion of Morrison Creek that would be diverted into a constructed drainage channel. These populations would be directly affected (i.e., removed) by the construction of the drainage channel.

Other potential indirect impacts on Greene's legenera include impacts caused by pollutants transported by urban runoff and other means, impacts caused by installation of piping and drainage and swale culverts, changes in vegetation as a result of changes in land use and management practices, impacts on site hydrology from the construction of Rancho Cordova Parkway, and the introduction of invasive species or noxious weeds from the surrounding development.

As habitat areas become more fragmented, roads and other development encroach into habitat areas, and nonnative plants are used for landscaping in new-development areas, there are generally increased opportunities for the introduction of invasive plant species and noxious weeds. As a result, habitat for Greene's legenera in the wetland preserve could be diminished compared to its current condition. It is assumed that no intrusion of humans or domestic animals would occur because the wetland preserve would be fenced. This **indirect** impact is considered **significant**. *[Similar]*

No other special-status plant populations were found during the protocol-level surveys, so no additional direct impacts on special-status plant species are expected to result. Additional indirect impacts to special-status plants resulting from loss of suitable habitat such as vernal pool grassland, seasonal wetland, and riparian habitat are addressed through Mitigation Measures 3.10-1a, 3.10-1b, 3.10-1b, 3.10-2a, and 3.10-2b, which address loss of sensitive habitats.

Loss of Greene's legenera through either direct removal or habitat modification constitutes a substantial adverse effect on a species identified as a special-status species in local or regional plans, policies, or regulations. Thus, loss of Greene's legenera would be considered a **direct significant** impact. *[Similar]*

IM Although a greater percentage of habitat that could support populations of Greene’s legenera would be preserved under the Impact Minimization Alternative than under the Proposed Project and High Density Alternatives, impacts on the three populations that were documented during ECORP’s spring 2003 surveys would be the same because plans for construction of Rancho Cordova Parkway and the constructed drainage parkway are the same under all three alternatives. Loss of Greene’s legenera through either direct removal or habitat modification constitutes a substantial adverse effect on a species identified as a special-status species in local or regional plans, policies, or regulations. Thus, loss of Greene’s legenera would be considered a **direct significant** impact. *[Similar]*

The potential for indirect impacts on Greene’s legenera would be reduced under the Impact Minimization Alternative because the width of the buffer between urban development and the habitat where Greene’s legenera populations were documented would increase. **Indirect** impacts are **potentially significant**, but to a lesser degree than under the Proposed Project and High Density Alternatives. *[Lesser]*

NF The No Federal Action Alternative would result in no impacts on special-status plants or habitat for potential special-status plant species because known populations of and suitable habitat for Greene’s legenera would be preserved under this alternative. In contrast, significant impacts on Greene’s legenera would result from implementation of all of the other three action alternatives, but could be mitigated to a less-than-significant level by implementing avoidance, seed collection, and relocation measures in a mitigation and monitoring plan. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not affect any special-status plants because these activities would not occur in areas that support special-status plant populations or special-status plant habitat.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect special-status plants; thus, **no direct or indirect** impacts would occur. *[Lesser]*

**Mitigation Measure 3.10-5: Incorporate Measures to Protect Greene’s Legenera in the Mitigation and Monitoring Plan.**

PP, HD, IM Direct impacts on the population of Greene’s legenera located within the wetland preserve shall be avoided to the maximum extent feasible.

A mitigation and monitoring plan for Greene’s legenera is being developed on behalf of the project applicant(s) by ECORP. Before the approval of grading plans or any ground-breaking activity within 250 feet of any Greene’s legenera population, the mitigation plan shall be submitted to the City for review and approval. The plan shall be submitted concurrently to DFG and USFWS for review and comment, and the City may consult with these entities before approval of the plan. The plan is required to maintain viable plant populations on-site and shall include avoidance measures for the existing population to be retained and mitigation measures for the populations to be directly affected. Possible avoidance measures include fencing of the population before construction and exclusion of project activities from the fenced-off areas, and construction monitoring by a qualified botanist to keep construction crews away from the population. Indirect impacts (i.e., changes in hydrology) shall be minimized by placing culverts to the vernal pool where this population occurs, if necessary. Possible mitigation for the two populations of Greene’s legenera that would be removed during construction of the drainage

parkway includes the collection of seeds from the existing populations and inoculation of the collected seeds into existing or compensatory vernal pools within the wetland preserve.

It is proposed in the mitigation plan that the best option for the successful germination of seeds would be to inoculate existing pools that are similar in size and depth and hydration period, and with similar associated species as the pools that currently support Greene's legenera. Mitigation for the populations of legenera proposed to be directly affected shall commence before the approval of any plans for, or any ground-breaking activities near, the locations of such legenera populations. Monitoring of the existing population of Greene's legenera and the seeded populations shall be conducted in conjunction with monitoring of vernal pools for a minimum period of 5 years, as specified in Mitigation Measure 3.10-1.

**Timing:** Before the approval of grading or improvement plans or any ground-breaking activity within 250 feet of any Greene's legenera population, including grubbing and clearing, for any project development phase. Ongoing monitoring shall occur for a minimum of 5 years following the completion of all construction activities.

**Enforcement:** City of Rancho Cordova Planning Department.

NF, NP No mitigation measures are required.

Implementation of Mitigation Measure 3.10-5 would reduce the significant impact from direct impacts and potential indirect impacts on Greene's legenera under the Proposed Project, High Density, and Impact Minimization Alternatives to a **less-than-significant** level.

## CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative impacts discussed in this section are based on existing, proposed, planned, and approved projects within the City's planning area. For purposes of this section, the geographic extent of cumulative impacts on vernal pools and biological resources associated with vernal pools is based on the extent of the Laguna Geologic Formation, which includes the project site.

### Impacts

IMPACT 3.10-6
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**Cumulative Biological Resources Impacts.** *Implementation of the project together with past, present, and reasonably foreseeable future projects would result in a cumulatively significant loss of biological resources in the region. The project's incremental contribution to this significant cumulative impact is **cumulatively considerable**.*

The project could result in degradation of wildlife habitat through development of new facilities that, when combined with other habitat impacts occurring from development within the Laguna Formation, could result in significant cumulative impacts. Despite the implementation of project-specific biological resource mitigation measures identified previously in this section there would be a temporal loss of vernal pool resources and Swainson's hawk foraging habitat during implementation of mitigation until performance standards are met.

Within the project site there are 35.49 acres of existing vernal pools. Of these, 49% (17.28 acres) would be permanently destroyed by project implementation. It is estimated that 75% to 90% of the historic California vernal pool habitat has been lost. The project would contribute to a cumulative loss of vernal pools in the region within the Laguna Formation. In addition to the direct loss of habitat, the project in conjunction with the existing plans in the surrounding area would result in the fragmentation of the regional vernal pool resources of the Laguna Formation.

Therefore, vernal pools and other wetlands would be confined to a small geographic region and would be more vulnerable to the effect of habitat fragmentation and other indirect impacts.

The project would result in the loss of nearly 1,500 acres of annual grassland habitat, which serves as foraging habitat for raptors, including Swainson's hawk. This loss would contribute significantly to the regional loss of this biological resource. Removal of large expanses (867 acres) of woodland and riparian habitat from the project site would contribute substantially to the regional loss of these habitat types that provide important functions and values to both common and special-status plant and animal species. Woodland and riparian habitat within the region is rapidly declining and a large portion has already been lost to development and other land use modifications.

When considered collectively, the existing, proposed, planned, and approved projects in the area would result in fragmentation of regional biological resources. These impacts are considered to be cumulatively **significant**.

### **Mitigation Measures**

Implementation of Mitigation Measures 3.10-3 and 3.10-5 would reduce the direct project-specific impacts on protected trees and special-status plants to a less-than-significant level. Implementation of Mitigation Measures 3.10-1a, 3.10-1b, 3.10-2, 3.10-4a, 3.10-4b, 3.10-4c, and 3.10-4d would reduce but not fully eliminate impacts on biological resources. Even with implementation of the proposed mitigation and regional enforcement of the USACE "no-net-loss" standard, the value of the region as it relates to the long-term viability of these resources would be substantially diminished. The Rio del Oro project would result in a cumulatively considerable incremental contribution to significant cumulative biological resources impacts, including the loss and degradation of sensitive habitats, habitat for special-status wildlife, and habitat for special-status plants; and loss/displacement of special-status wildlife. On a cumulative level, the direct and indirect impacts on biological resources would be considered **significant and unavoidable**.

### **3.10.4 RESIDUAL SIGNIFICANT IMPACTS**

Implementation of the mitigation measures described in this section would reduce significant effects on sensitive biological resources, but not less than-significant levels. However, impacts on sensitive habitats and special-status wildlife would remain significant and unavoidable even with implementation of the proposed wetland preserve and open-space preserve because conflicts with the City General Plan, habitat fragmentation, and permanent loss/displacement of special-status wildlife would result.

## **3.11 VISUAL RESOURCES**

### **3.11.1 AFFECTED ENVIRONMENT**

Visual resources are the natural and artificial features of the landscape that can be seen and that contribute to the public's appreciative enjoyment of the environment. Visual resources or aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility, and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located. Exhibits 3.11-1 through 3.11-6 illustrate the locations and photographs of representative views of the project site and surrounding area taken during site visits in February 2004, February 2005, and June 2005.

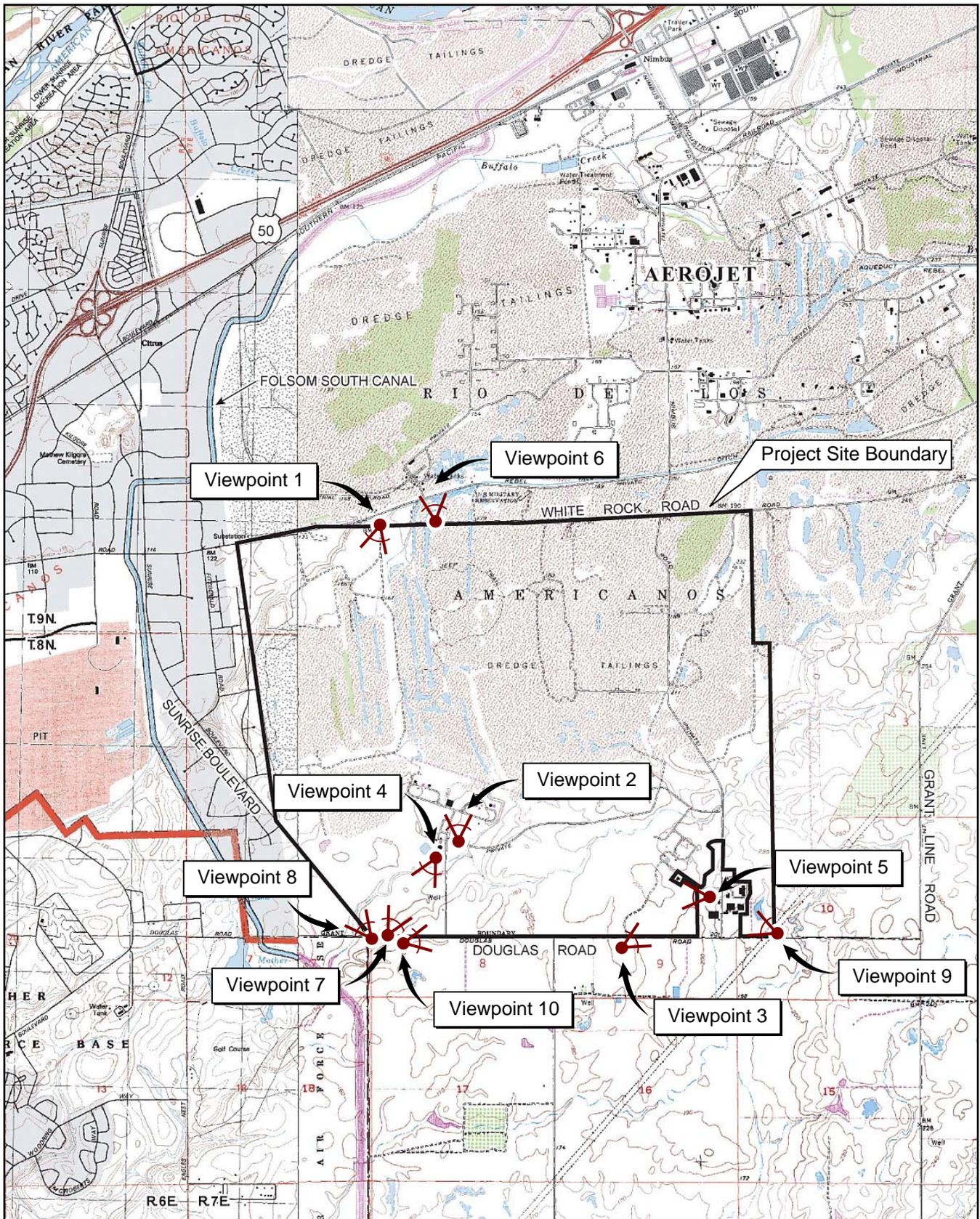
#### **REGIONAL SETTING**

The various components of the Rio del Oro Specific Plan would be developed within the city limits of Rancho Cordova, a community located in the transition zone between the Sacramento Valley and foothills of the Sierra Nevada. The site is located in a flat alluvial plain that was once a channel of the American River. The project site is located within a much larger area of land that is currently undeveloped, but is planned for residential, retail, commercial, and light industrial land uses in the future. The City's vision for future growth includes the use of specific plans and community plans to ensure conformity with design standards, a mix of land uses, and orderly development. In addition to the Rio del Oro Specific Plan, the approved Sunrise Douglas Community Plan will guide development on the lands immediately south (across Douglas Road) and southeast (adjacent to the Security Park) of the project site; in addition, the proposed Westborough Project and Easton Community Plan, if approved, will guide development on a large portion of Aerojet General Corporation (Aerojet) lands north of the project site along U.S. Highway 50 (U.S. 50) (Exhibit 4-1 in Chapter 4, "Other Statutory Requirements"). Land immediately north of the project site, on the other side of White Rock Road, will remain under the control of Aerojet for aerospace testing activities and associated buffer lands. The land immediately adjacent to the northeastern part of the project site is being mined by Teichert Aggregates, Inc. (Teichert), but is part of the Grantline North Planning Area, which would include development of primarily residential housing and limited commercial/residential mixed uses.

Currently, land in the project vicinity has been developed for urban uses only from the western border of the project site westward into Sacramento (Exhibit 4-1). The project site itself, as well as the surrounding lands to the north, east, and south, are open in character, are generally undeveloped, and are covered primarily with annual grasses and forbs, along with scattered shrubs and trees. Wildlife, particularly deer, turkey, and numerous varieties of songbirds, are found throughout the area. From the southern part of the project site and from the adjacent surrounding lands, on a clear day eastward views extend to the Sierra Nevada mountain range in the background, and westward views include the skyscrapers of downtown Sacramento and extend to the Coast Range in the background. Roadways surrounding the project site are narrow and consist of two lanes. Because of the undeveloped nature of the project site and the lands to the north, east, and south, motorists traveling on the surrounding roadways would perceive the project site as being located in the middle of a rural area filled with natural vegetation and wildlife.

#### **VISUAL CHARACTER OF THE PROJECT SITE**

The project site has been substantially disturbed by historical gold mining activities that occurred approximately 50–100 years ago (see Section 3.7, "Geology, Soils, and Mineral Resources," and Section 3.9, "Cultural Resources," for a detailed description of historical mining activities). Approximately 70% of the site is composed of mine tailings (piles of cobblestones laid down in rows) that have formed rolling ridges covered with vegetation (Viewpoint 1, Exhibit 3.11-2). In certain areas, these dredge tailings form broad, green mounds that are up to 30 feet tall. Cottonwood trees, shrubs, and annual grasses are growing in the dredge tailings. Cattle were historically grazed on the site when it was deeded as part of the Rio de los Americanos Mexican land grant, and continue to graze throughout the site today as part of the Clark Cattle Company operation.

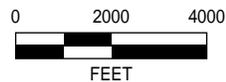


Source: USGS Citrus Heights/Carmichael Quads 1992, USGS Folsom/Bufalo Creek Quads 1980, EDAW 2004 and 2005

## Viewpoint Locations

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 3T089.01 06/05

EXHIBIT 3.11-1





Viewpoint 1 – A view of dredge tailings on the project site looking south from White Rock Road. The dredge tailings will be removed as part of separate Conditional Use and Implementation Permits for aggregate mining operations (not part of the Rio del Oro project).



Viewpoint 2 – This view of an abandoned rocket testing facility was taken from the southern portion of the project site looking north. All aerospace facilities would be removed prior to project construction activities.

Source: EDAW 2004 and 2005

## Representative Photographs of On-Site Features

EXHIBIT 3.11-2



Viewpoint 3 – This view of the project site from Douglas Road looking northeast shows wetlands in the foreground, buildings associated with Security Park (an industrial park not part of the project site) in the midground, and the Sierra Nevada mountain range in the background.



Viewpoint 4 – A view from the southern part of the project site looking west, showing Morrison Creek in the foreground and commercial buildings on the west side of Sunrise Boulevard in the background.

Source: EDAW 2004 and 2005

## Representative Photographs of On-Site Features

EXHIBIT 3.11-3



Viewpoint 5 – Westward views of the project site from the Security Park (an industrial park not part of the project site) include wetlands in the foreground, and abandoned aerospace facilities and trees in the background.



Viewpoint 6 – Looking north from the project site, typical views of Aerojet-owned land north of White Rock Road include security fencing, power lines, berms, and trees that screen aerospace facilities.

Source: EDAW 2004 and 2005

## Representative Photographs of On- and Off-Site Features

EXHIBIT 3.11-4



Viewpoint 7 – Views from the southern portion of the project site include the approved Sunrise Douglas Community Plan area, located south of Douglas Road. Shown here are new homes under construction in the Anatolia Phase 1 development.



Viewpoint 8 – Looking east from the southern portion of the project site, views include annual grassland and wetlands in the foreground, scattered trees in the middleground, and the Sierra Nevada mountain range in the background.

Source: EDAW 2004 and 2005

**Representative Photographs of On- and Off-Site Features**

**EXHIBIT 3.11-5**



Viewpoint 9 – This view from the intersection of Grant Line Road and Douglas Road looking west shows grassland that would be developed for industrial uses under the proposed Rio del Oro Specific Plan and for residential uses under the approved Sunrise Douglas Community Plan area. The Security Park buildings and associated landscaping (an industrial park not part of the project site) are visible in the middleground, and the mountains of the Coast Range are visible in the background.



Viewpoint 10 – This view from the intersection of Douglas Road and Sunrise Boulevard looking northwest shows traffic along Sunrise Boulevard during the morning rush hour. Industrial buildings are visible in the distance on both sides of Sunrise Boulevard. Cattle grazing on the southwestern corner of the project site are visible in the foreground.

Source: EDAW 2004 and 2005

## Representative Photographs of On- and Off-Site Features

EXHIBIT 3.11-6

The remains of aerospace testing facilities developed in the 1950s through the 1970s are visible primarily in the southern part of the project site, but are also present in other locations (Viewpoint 2, Exhibit 3.11-2). Section 3.9, “Cultural Resources,” and Section 3.13, “Hazards and Hazardous Materials,” contain detailed descriptions of these sites and the associated historical activities. Although the project site is fenced and gated and public access restricted, some of the buildings have been damaged by vandalism and graffiti. A paved access road to these facilities winds throughout the site. Piping associated with groundwater monitoring wells that extends approximately 3 feet above the ground surface is visible at various locations throughout the project site. Facilities associated with groundwater extraction and treatment systems at the Beta Complex, which include a fenced area approximately 30 feet by 15 feet, are also visible in the southern part of the project site. Industrial development associated with the former Administration Area (now called the Security Park and not part of the Rio del Oro project site) is clearly visible immediately adjacent to the southeastern portion of the project site (Viewpoint 3, Exhibit 3.11-3). The Administration Area contains a 15-story light-colored concrete building, with the name “Security Park” painted at the top, that is clearly visible from all parts of the project site. The Administration Area also contains numerous other two- to three-story metal and concrete buildings, various types of heavy equipment, transport trucks, and metal cargo containers inside a secure perimeter (chain-link fence topped by barbed wire and a guard station). The buildings are partially screened by plantings of trees and shrubs.

A report conducted by Sierra Nevada Arborists, dated February 11, 2003, indicated that a total of 4,026 native and nonnative trees were observed on the project site. The majority of the trees are cottonwoods and willows. There are more than 1,500 trees on the project site with a diameter at breast height (dbh) of 6 inches or greater. A large wetland area is located along the southern boundary of the site and is composed of a flat, low vegetation area that includes vernal pools (Viewpoint 4, Exhibit 3.11-3; and Viewpoint 5, Exhibit 3.11-4).

Currently, Teichert holds a County of Sacramento (County) Conditional Use Permit (No. 98-UPB-0503) for surface mining of aggregate resources on 180 acres of the eastern portion of the project site (City of Rancho Cordova 2004). In June 2005, the City approved Teichert’s application for a second Conditional Use Permit to remove portions of the dredge tailings on the western portion of the project site in the Phase 1 development area. The City expects to receive a third Implementation Permit application from Granite Construction Company to remove a portion of the remaining dredge tailings from the central portion of the project site. Removal of the dredge tailings is a separate action that is not part of the Rio del Oro project. Assuming City approval of the remaining application, the site would be mined for most of the remaining aggregate resources, and the topography of approximately 70% of the project site would change radically, from low-lying hills to a flat landscape. The flat topography would open up views of the Sierra Nevada from the project site and would open up a much larger viewshed that would include land to the north and south of the project site. The aggregate mining process would not disturb vegetation within 250 feet of vernal pools; however, trees, shrubs, and grasses outside of the 250-foot buffer areas would be removed. While the mining applications are separate from the project, they are discussed here because they have the potential to change the appearance of the site.

## **VISUAL CHARACTER OF THE SURROUNDING AREA (FROM THE PROJECT SITE)**

Land uses surrounding the project site include limited amounts of industrial and commercial development; most of the land is undeveloped. The general character of the surrounding area is described below and is presented through photographs contained in Exhibits 3.11-4, 3.11-5, and 3.11-6.

- ▶ **North**—White Rock Road, industrial land uses, and undeveloped rural lands are located north of the project site. A portion of an existing industrial park that extends north along Sunrise Park Drive, including corrugated metal buildings, large metal storage containers in a variety of colors, high-mast lighting, and a chain-link fence, is visible to the northwest of the project site. Although industrial facilities associated with the Aerojet aerospace operations are present along the entire length of the north side of White Rock Road from the industrial park to Grant Line Road, they are generally screened by tall berms and trees, and thus are not visible from the project site (Viewpoint 6, Exhibit 3.11-4). Transmission lines and wooden poles, along with a chain-link fence topped with barbed wire, are visible from the project site and run parallel along the entire

length of White Rock Road. The fence prevents authorized public access to Aerojet lands. Piping associated with groundwater monitoring wells, which extends approximately 3 feet above the ground surface, is visible at various locations on the north side of White Rock Road. Most of this area is undeveloped buffer land that is covered with annual grasses and forbs, shrubs, and a few scattered trees. Piles of dredge tailings are apparent in several areas. Five round corrugated metal storage tanks, approximately 20 feet wide by 20 feet tall, are plainly visible in foreground views across the street from the 1,100-acre Elliott Homes parcel (i.e., development Phase 1). The GEM Rancho Cordova site, associated with Aerojet's remedial activities, abuts the north side of White Rock Road roughly at the midpoint of the project site. Prominent visual elements of the GEM facilities include various one-story concrete and metal buildings, heavy equipment, transport trucks, and metal storage containers located within Aerojet's perimeter fence. Farther east from the northeastern portion of the project site, a tall red and white checkered water tower on Aerojet's property north of White Rock Road is visible in the background to the northeast.

- ▶ **South**—Douglas Road, industrial and residential land uses, and undeveloped rural lands are located south of the project site. From the southern portion of the project site, the Security Park with its 15-story concrete building is a prominent feature in the landscape, as are the metal transmission towers that form a line extending southwest of the project site. Undeveloped, rural grassland makes up the largest part of the foreground views to the southeast, with scattered trees in the background. A few farmsteads and abandoned agricultural buildings (barns and sheds) along Jaeger Road contribute to the rural nature of this area. From roughly the midpoint of the project site along Douglas Road, the most prominent feature of southern views is the start of new residential development and associated construction equipment on the south side of Douglas Road in the Anatolia housing development, which is part of the Sunrise Douglas Community Plan (Viewpoint 7, Exhibit 3.11-5). At full buildout, development associated with the community plan will fill the entire view from the southern part of the project site. Beginning at Jaeger Road and continuing west to Sunrise Boulevard, transmission lines and wooden poles parallel Douglas Road and are highly visible.
- ▶ **East**—Lands east of the project site are undeveloped and are covered with annual grasses, shrubs, and scattered trees (Viewpoint 8, Exhibit 3.11-5). The topography is gently rolling where dredge tailings have been deposited, but otherwise it is fairly level. Equipment and trucks associated with Teichert's aggregate mining operation on and to the east of the Rio del Oro property boundary are visible from a small area in the eastern portion of the project site. From the southern part of the project site looking east, where the land is flat and open, cars and trucks traveling on Grant Line Road and Douglas Road are clearly visible. On a clear day, the Sierra Nevada mountain range is visible in the background. Land immediately adjacent to the southeastern project site boundary is scheduled to be developed as part of the Sunrise Douglas Community Plan. When completed, these houses will be visible to motorists on Grant Line Road; they would block views of project-related development (Viewpoint 9, Exhibit 3.11-6).
- ▶ **West**—Sunrise Boulevard and commercial and industrial development are located west of the project site. Westward views from the northwestern portion of the project site are composed entirely of a light industrial park that has been developed on both sides of Luyung Drive and Mechanical Drive. Prominent visual features include corrugated metal and concrete buildings, heavy equipment, transport trucks, metal storage bins painted various colors, chain-link fencing, and high-mast lighting. Some of the buildings are partially screened by trees and shrubs. Views from the southwestern portion of the project site include Sunrise Boulevard and transmission lines and associated wooden poles in the foreground, and industrial development (one- to two-story concrete and metal buildings) in the middle ground and background (Viewpoint 10, Exhibit 3.11-6). Views of the industrial buildings are partially screened by deciduous landscape trees that have been planted in the median along Sunrise Boulevard, as well as shrubs and trees planted adjacent to the buildings. A tall, teardrop-shaped water tower that has been painted white (associated with the Stone Creek development) is visible in the background to the northwest. Sunrise Boulevard is a highly traveled four-lane roadway in the area immediately west of the project site, and it carries a high percentage of transport trucks associated with industrial development in the vicinity. The signalized intersection of Sunrise Boulevard and Douglas Road fills the foreground view from the southwestern part of the project site. Douglas Road currently

consists of two lanes, as does Sunrise Boulevard south of Douglas Road. Retail shopping centers based around a Raley's grocery store and a Safeway grocery store are planned for the southeastern and southwestern corners of this intersection, respectively. When completed, these retail developments will be highly visible and will fill the entire view from this part of the project site. On a clear day, western views from the southern portion of the project site include the skyscrapers of downtown Sacramento and the mountains of the Coast Range in the background.

### **3.11.2 REGULATORY FRAMEWORK**

#### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

There are no federal plans, policies, regulations, or laws related to visual resources that are applicable to the proposed project or alternatives under consideration.

#### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

##### **California Scenic Highway Program**

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the highways. There are no state-designated scenic highways in the vicinity of the project site (Caltrans 1999).

#### **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES**

There are no regional or local plans, policies, regulations, or laws related to visual resources that are applicable to the proposed project or alternatives under consideration.

### **3.11.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the State CEQA Guidelines, a visual resources impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ have a substantial adverse effect on a scenic vista;
- ▶ substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;
- ▶ substantially degrade the existing visual character or quality of the site and its surroundings; or
- ▶ create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

#### **ANALYSIS METHODOLOGY**

This visual impact analysis is based on field observations in 2004 and 2005 and a review of maps and aerial photographs. This analysis also incorporated research on design measures for incorporating new development into surrounding land uses. Analysis of the project's impacts was based on evaluation of the changes to the existing visual resources that would result from project implementation. In making a determination of the extent and implications of the visual changes, consideration was given to:

- ▶ specific changes in the visual composition, character, and specifically valued qualities of the affected environment;
- ▶ the visual context of the affected environment;
- ▶ the extent to which the affected environment contained places or features that have been designated in plans and policies for protection or special consideration; and
- ▶ the numbers of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by the project-related changes.

It should be noted that an assessment of visual quality is a subjective matter, and reasonable people can disagree as to whether alteration in the visual character of the project site would be adverse or beneficial. For this analysis, a conservative approach was taken, and the potential for substantial change to the visual character of the project site is generally considered a significant impact.

## IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

### Program Level Impacts and Mitigation Measures

<b>IMPACT 3.11-1</b>
--------------------------

*Alteration of a Scenic Vista. Project implementation would result in the potential for project-related construction of new homes and businesses to degrade the visual quality of a scenic vista.*

PP, HD, IM,  
NF

A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The project site itself does not provide any aesthetic resources that would be considered a scenic vista. The agricultural grazing lands, dredge tailings, and industrial development that make up the project site do not provide scenery of remarkable character. Because the project site has been extensively mined and portions have been used for rocket testing facilities, it does not provide views of the indigenous natural landscape. The piles of dredge tailings do not constitute a valuable scenic resource. Although the current land uses provide views of an agricultural landscape that is representative of the undeveloped areas of the project region, the project site does not contain resources that are exemplary of the agricultural history of the area. Views of the project site are not unique in the region, and they are obscured by elevated features such as the industrial park to the west, berms and trees on the Aerojet property north of White Rock Road, and dredge tailings and trees to the east of the project site.

Background views of the Sierra Nevada and the Coast Range are currently available only on a clear day to motorists traveling on Douglas Road. Views of the Sierra Nevada for motorists traveling east on White Rock Road are obscured by berms and trees on the Aerojet property on the north side of the road, and westward views of the Coast Range are obscured by development in the industrial park. Views of the Sierra Nevada and the Coast Range from the project site are currently afforded only in the southern portion where the land is flat (e.g., no dredge tailings). Following removal of the piles of dredge tailings after the mining operations are complete, the site would afford better opportunities for background views of the Sierra Nevada and Coast Range, as well as skyscrapers in downtown Sacramento. Because project development includes preservation of a large wetland area in the south, motorists along Douglas Road would retain

background views of the Sierra Nevada and the Coast Range. Although the Sierra Nevada and the Coast Range are visible in the background from certain parts of the project site and to motorists traveling on Douglas Road, and would be more visible once the piles of dredge tailings are removed, these views would not qualify as a significant scenic vista because of the distance between the project site and the mountain ranges. Views would be substantially the same under all action alternatives. Thus, **direct** impacts related to alteration of scenic vista are considered **less than significant**. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter the visual character at the project site by removing the existing piles of dredge tailings, as well as existing vegetation in the areas to be mined. Following removal of the piles of dredge tailings after the mining operations are complete, the site would afford better opportunities for background views of the Sierra Nevada and Coast Range, as well as skyscrapers in downtown Sacramento.

No project-related residential, commercial, or industrial development would occur under the No Project Alternative; therefore, views of the Sierra Nevada and the Coast Range would not be obstructed for motorists traveling along local roadways. **No direct** or **indirect** impacts related to a scenic vista would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.11-2**

**Damage to Scenic Resources within a State Scenic Highway.** *Project implementation could result in the potential for adverse changes to an outstanding scenic resource visible from a state scenic highway.*

PP, HD, IM,  
NF

A scenic resource within a state scenic highway is a resource that is noted for its outstanding scenic qualities and is visible from a state-designated scenic highway. There are no state-designated scenic highway segments adjacent to the project site. The closest County-designated scenic roadway is Scott Road, located approximately 6 miles to the east. The project site is not visible from any state- or County-designated scenic highways or roadways. Therefore, project implementation would not have any direct or indirect impacts on scenic resources within a state scenic highway. **No direct** or **indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter visual character at the project site by mining the existing piles of dredge tailings, as well as the existing vegetation.

Because the project site is not visible from any designated scenic highways or roadways, there would be **no direct** or **indirect** impacts on scenic resources under the No Project Alternative. *[Similar]*

Mitigation Measure: No mitigation measures are required.

*Degradation of Visual Character. Project implementation could substantially alter the visual character of the project site through conversion of an expanse of primarily undeveloped land to developed urban uses.*

PP, HD

The project site consists of a 3,828-acre expanse of open space supporting grazing activities, dredge tailings, and abandoned aerospace facilities. Under the Proposed Project and High Density Alternatives, project implementation would convert approximately 3,321 acres of undeveloped land to urban development, associated infrastructure, and supporting uses (e.g., parks, open space). The remaining 507 acres would be preserved as part of the proposed wetland preserve. Considering the relatively undisturbed and rural nature of land to the north, east, and west of the project site, the project's conversion from grazing land to urban development would result in a substantial alteration of the visual character of the project site. The altered visual condition would be readily visible to motorists on adjacent roadways (i.e., White Rock Road, Douglas Road, the southern portion of Sunrise Boulevard, and a portion of Grant Line Road), as well as existing and future residents in the Sunrise Douglas Community Plan area, and employees at the nearby industrial parks.

Views of the project site from Douglas Road and the Sunrise Douglas Community Plan area (Viewpoint 3, Exhibit 3.11-3; Viewpoint 8, Exhibit 3.11-5; and Viewpoint 10, Exhibit 3.11-6) would be substantially altered as agricultural grazing land and abandoned aerospace facilities were replaced by urban development. Motorists on Douglas Road, as well as early residents in the first phase of homes developed in the Anatolia subdivision, may perceive this as a substantial degradation of the visual character or quality of the site because one common type of viewshed found in the area (pastureland) would be replaced by another common local viewshed (urban). The presence of urban development on the project site would be consistent with, and appear as a continuation of, development on the developing Anatolia site and future development in the Sunrise Douglas Community Plan area to the south and the existing commercial/industrial development to the west; however, the conversion of undeveloped land to urban development would be a substantial degradation of visual character as seen from Douglas Road and the first phase of the Anatolia housing development.

Views of the project site from White Rock Road (Viewpoint 1, Exhibit 3.11-2) would also be substantially altered. In addition to carrying local traffic, White Rock Road is heavily traveled during the morning and evening commute hours by motorists attempting to avoid traffic on U.S. 50. Because the undeveloped nature of Aerojet land immediately north of the project site would be maintained, conversion of the project site from grazing land to urban development would be more readily apparent, and could be perceived as a substantial degradation of the visual character of the site.

It should be noted that the appearance of approximately 70% of the project site would be substantially altered if removal of the piles of dredge tailings and removal of the majority of trees that currently exist on-site as a result of aggregate mining activities is approved under separate Conditional Use Permits. Thus, at the start of construction activities for each phase of project development, the project site may look substantially different than it does now.

The proposed 507-acre wetland preserve along the southern boundary of the project site would remain undeveloped and would preserve current views of undeveloped, rural land.

Reasonable people may consider the conversion of agricultural pastureland/undeveloped land to urban development on this scale (3,321 acres) as a loss of aesthetically pleasing and valuable viewshed. Agricultural pasturelands and rural areas can be considered a valuable aesthetic

resource that is representative of the visual character of much of rural Sacramento County. In general, most people prefer to view vast expanses of undeveloped rural/pasturelands over urban development.

Reasonable people may differ as to the aesthetic value of the agricultural lands in the project site, and whether development of urban uses in the project site would constitute a substantial degradation of the existing visual character or quality of the site and its surroundings. However, given the large scale of this urban development and the rural nature of its setting, the impacts on visual resources from project implementation are considered to be **direct** and **significant**. **No indirect** impacts would occur. *[Similar]*

IM Implementation of the Impact Minimization Alternative would have the same types of impacts on the visual character of the project site as the Proposed Project and High Density Alternatives described above. However, under this alternative, the wetland preserve would encompass 994.5 acres, approximately 487.5 acres more than under either the Proposed Project or High Density Alternatives. Thus, a larger expanse of the existing undeveloped, rural land would be preserved under this alternative, which would benefit viewers traveling along Douglas Road and future residents within the Sunrise Douglas Community Plan area. However, given the large scale of this urban development and the rural nature of its setting, the impact on visual resources under the Impact Minimization Alternative is considered to be a **direct** and **significant** impact. **No indirect** impacts would occur. *[Lesser]*

NF Implementation of the No Federal Action Alternative would have the same types of impacts on the visual character of the project site as described above. However, under this alternative, the wetland preserve would encompass 835 acres, approximately 328 acres more than under the Proposed Project Alternative. Thus, a larger expanse of the existing undeveloped, rural land would be preserved under this alternative, which would benefit viewers traveling along Douglas Road and future residents within the Sunrise Douglas Community Plan area. However, given the large scale of this urban development and the rural nature of its setting, the impact on visual resources under the No Federal Action Alternative is considered to be a **direct** and **significant** impact. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter the visual character at the project site by removing the existing piles of dredge tailings, as well as existing vegetation in the areas to be mined.

Because no project-related development would occur under the No Project Alternative, there would be no project-related degradation of visual character, and thus, **no direct** or **indirect** project-related impacts would occur. *[Lesser]*

### Mitigation Measure 3.11-3: Require Development to Conform to City General Plan Design Guidelines.

PP, HD, IM, NF The project applicant(s) for all project phases shall include design, architectural, development, and maintenance standards in the Rio del Oro Specific Plan that will ensure minimization of impacts on the existing visual character of the site. Though this process the project applicant(s) shall ensure that urban development at the project site is substantially consistent with the Design Guidelines adopted as part of the City General Plan.

OR

Before the approval of building permits, all structures and facilities shall adhere to the City's design review process.

Timing: Before approval of building permits for all structures within all project phases.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.11-3 would partially reduce impacts related to the degradation of the local viewshed through conversion of undeveloped rural lands (i.e., rural setting) to a large-scale urban development project under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, but it would not reduce impacts to a less-than-significant level. Because of the scale and location of the project site, there is no feasible mitigation available to address aesthetic impacts associated with the conversion of a large expanse of rural land to urban development. Although conformance of the specific plan with the City's design, architectural, development, and maintenance standards is included as mitigation to require development in the project site to conform to certain aesthetic guidelines, there is no mechanism to allow implementation of the project while avoiding the conversion of the local viewshed from rural lands to large-scale urban development. Therefore, impacts would remain **significant and unavoidable**.

IMPACT  
3.11-4

**Temporary Degradation of Visual Character for Developed Project Land Uses Caused by Construction Staging Areas.** *Project implementation would involve five phases of construction over a 25- to 30-year buildout period. Construction activity would involve the temporary use of staging areas for construction equipment and materials, which would be visible to adjacent project land uses that have already been developed.*

PP, HD, IM,  
NF

Project implementation would involve several phases of similar types of construction under all action alternatives over a 25- to 30-year phased buildout period. During that time, adjacent project development, including sensitive land uses such as residential housing, schools, and parks, would be occupied while construction is occurring in a different phase. Project construction would involve the temporary use of fenced staging areas for construction equipment and materials. Although these staging areas would be located in disturbed areas, construction equipment and materials would be visible to developed project land uses and to motorists on local roadways. Thus, these activities would have a temporary **direct, significant** impact on visual resources. **No indirect** impact would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter visual character at the project site by mining the existing piles of dredge tailings, as well as the existing vegetation.

Under the No Project Alternative, no project-related development would occur, and therefore no project-related construction activities would occur that could affect visual resources for developed land uses. **No direct or indirect** impacts would occur. *[Lesser]*

**Mitigation Measure 3.11-4: Screen Construction Staging Areas.**

PP, HD, IM,  
NF

The project applicant(s) for all project phases shall locate staging and material storage areas as far away from sensitive land uses (i.e., residential areas, schools, parks) and/or nearby roadways as possible. Staging and material storage areas shall be approved by the City before the approval

of grading plans and building permits for all project phases, and shall be screened from adjacent occupied land uses in earlier development phases to the maximum extent practicable. Screens may include berms or fences. The screen design shall be approved by the City to further reduce visual effects to the extent possible.

**Timing:** Before the approval of grading plans and building permits, and during all phases of construction for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.11-4 in addition to Mitigation Measure 3.16-1, “Implement Measures to Prevent Exposure of Sensitive Receptors to Temporary Construction-Generated Noise,” would reduce significant impacts associated with temporary visual-quality degradation for developed land uses from concurrent construction staging areas (by providing visual screening) under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. However, because screening may not always be feasible (i.e., projects covering a large area or tall buildings), this temporary impact is **significant and unavoidable**.

**IMPACT  
3.11-5**

**Temporary Degradation of Visual Character for Future Project-Related Land Uses from Ongoing Mining Activities.** *Aggregate mining activities could occur on the project site concurrently with project development, which could result in a temporary degradation of visual character for portions of development that are occupied.*

PP, HD, IM,  
NF

Mining activities at the project site are occurring now and would continue to occur in the future under separate Conditional Use Permits prior to and concurrently with project-related development. As project development phases become occupied with residents and workers, mining activities may increase in intensity, which could result in **direct, significant** visual resource impacts. The same types of alterations of visual character would result under all action alternatives. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter visual character at the project site by mining the existing piles of dredge tailings, as well as the existing vegetation.

Because project-related development would not occur, under the No Project Alternative no visual resources conflicts would occur between project residents or workers and ongoing mining activities. Therefore, **no direct or indirect** impacts related to temporary alteration of visual character from occupied development would occur. *[Lesser]*

**Mitigation Measure 3.11-5: Screen Mining Areas.**

PP, HD, IM,  
NF

Before the issuance of certificates of occupancy and final inspections for facilities where mining activities will be visible, the project applicant(s) for all project phases shall visually screen project-related development from mining activities to the maximum extent practicable. If mining activities, including reclamation activities, are anticipated to occur for more than 1 year after project approval, a combination of fast-growing shrubs and trees shall be planted around mining project boundaries to provide screening.

**Timing:** Before the issuance of certificates of occupancy and final inspections for facilities where mining activities would be visible for all project phases.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.11-5 in addition to Mitigation Measure 3.16-5, “Implement Measures to Improve Land Use Compatibility with Noise Sources,” would partially reduce significant impacts associated with temporary alteration of visual character for future project-related land uses from ongoing mining activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, but not to a less-than-significant level. Because screening that would provide an appropriate and complete visual barrier may not be practicable, this impact remains **significant and unavoidable**.

**IMPACT  
3.11-6**

**New Light and Glare Effects.** *Project implementation would require lighting of new development, which could inadvertently cause increased light and glare effects.*

PP, HD

Light associated with urban development can result in spillover lighting and glare effects. Spillover lighting is artificial lighting that spills over onto adjacent properties and could cause an annoyance to neighboring residents by disturbing sleep patterns. Glare is intense light that shines directly, or is reflected off of a surface, into a person’s eyes. Use of building materials such as reflective glass and polished surfaces can cause glare. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare is particularly acute at sunrise and sunset because of the low angle of the sun in the sky.

Under current conditions, the project site has only a few small scattered areas of development associated with abandoned aerospace facilities that generate no significant sources of light or glare. Project development under the Proposed Project and High Density Alternatives would require lighting of roadways; parks; schools and related outdoor sports playfields and a stadium; commercial, office, and light industrial developments; parking lots; and other facilities. In addition, nighttime lighting in the office/commercial areas, or the presence of reflective surfaces on buildings in this area (e.g., reflective window glazing), may result in light and glare shining primarily onto motorists on White Rock Road, but also onto motorists on portions of Sunrise Boulevard and Douglas Road. Nighttime lighting associated with proposed industrial development in the southeastern portion of the project site could result in light and glare effects for motorists on Douglas Road as well as future residents living in the Sunrise Douglas Community Plan area adjacent to the southeastern project boundary and on the south side of Douglas Road. The proposed 507-acre wetland preserve that would be located along the southern boundary of the project site would provide a distance buffer between Douglas Road and project development that would lessen light and glare impacts; however, overall light and glare effects from project implementation would still create **significant and direct** visual impacts. **No indirect** impacts would occur. *[Similar]*

IM

Effects from new sources of light and glare under the Impact Minimization Alternative would be similar to those under the Proposed Project and High Density Alternatives. However, under this alternative an additional 487.5 acres of wetland would be set aside as a wetland preserve. Because 487 fewer acres would be developed, and thus would not generate new sources of light and glare effects, implementation of the Impact Minimization Alternative would generate a lesser degree of **significant and direct** impacts. **No indirect** impacts would occur. *[Lesser]*

NF The same types of effects from new sources of light and glare would occur under the No Federal Action Alternative as under the Proposed Project Alternative. However, under this alternative an additional 328 acres would be set aside as a wetland preserve. Because 328 fewer acres would be developed, and thus would not generate new sources of light and glare effects, implementation of the No Federal Action Alternative would generate a lesser degree of **significant** and **direct** impacts. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter the visual character at the project site by mining the existing piles of dredge tailings, as well as the existing vegetation.

Because no development would occur, under the No Project Alternative there would be no project-related sources of light or glare. **No direct** or **indirect** impacts would occur. *[Lesser]*

#### Mitigation Measure 3.11-6: Establish and Require Conformance to Lighting Standards and Prepare and Implement a Lighting Plan.

PP, HD, IM, NF To reduce impacts associated with light and glare, the project applicant(s) for all project phases shall conform to the following guidelines:

- ▶ Meet the minimum City lighting standards for all project-related lighting. All lighting fixtures shall be designed to be consistent with the Design Guidelines contained in the City General Plan.
- ▶ Shield or screen lighting fixtures to direct the light downward and prevent light spill on adjacent properties.
- ▶ Place and direct flood or area lighting needed for construction activities or for nighttime sporting activities to not disturb adjacent residential areas and passing motorists.
- ▶ Prohibit the use of harsh mercury vapor, low-pressure sodium, or fluorescent bulbs for public lighting in residential neighborhoods.
- ▶ Use appropriate building materials, lighting, and signage in the office/commercial areas to prevent light and glare from adversely affecting motorists on nearby roadways.
- ▶ Design exterior lighting as an integral part of the building and landscape design in the Rio del Oro Specific Plan area. Lighting fixtures shall be architecturally consistent with the overall site design and character and shall be consistent with the City's Design Guidelines.
- ▶ Establish standards for outdoor lighting to reduce high-intensity nighttime lighting and glare as part of the Rio del Oro Specific Plan design guidelines/standards. Consideration shall be given to design features, namely directional shielding for street lighting, parking lot lighting, and other significant light sources, that will reduce effects of nighttime lighting. In addition, consideration shall be given to the use of automatic shutoffs or motion sensors for lighting features to further reduce excess nighttime light. All nighttime lighting shall be shielded to prevent the light from shining off of the surface intended to be illuminated.

A lighting plan shall be submitted to the City for review and approval which shall include the above elements. The lighting plan may be submitted concurrently with other improvement plans,

and shall be submitted before the installation of any lighting or the approval of building permits for all phases. The project applicant(s) of all future phases shall implement the approved lighting plan.

Timing: Before the approval of building permits for all phases.

Enforcement: City of Rancho Cordova Planning and Public Works Departments.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.11-6 would reduce significant impacts associated with effects from new sources of light and glare (by reducing lighting intensity) under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.11-7**

**New Skyglow Effects.** *Project implementation would require lighting of new development, which could inadvertently cause increased skyglow effects.*

PP, HD

At night, artificial light can cause glare. Skyglow is artificial lighting from urbanized uses that alters the rural landscape and, in sufficient quantity, lights up the nighttime sky, thus reducing the visibility of astronomical features.

Under current conditions, the project site has only a few small scattered areas of development associated with abandoned aerospace facilities. These areas generate no significant sources of skyglow into the night sky. However, a substantial increase in the amount of nighttime light and glare would result from the development of the project with residential, commercial, and industrial uses under the Proposed Project and High Density Alternatives, potentially obscuring views of the stars, constellations, and other features of the night sky, and potentially affecting nearby motorists and future residents. In addition, there is a potential that a 40-acre adult sports park could be constructed on the project site. This sports park could include a 3,000-seat stadium or amphitheatre, which would include high-mast nighttime lighting that would create skyglow effects. Skyglow effects from project implementation under both the Proposed Project and High Density Alternatives would create similar **significant** and **direct** visual impacts related to new skyglow effects, because a similar amount of land would be developed. **No indirect** impacts would occur. *[Similar]*

IM

Effects from skyglow under the Impact Minimization Alternative would be similar to those under the Proposed Project Alternative. However, under this alternative, an additional 487.5 acres would be set aside as a wetland preserve. Because 487 fewer acres would be developed and thus would not generate new sources of skyglow, implementation of the Impact Minimization Alternative would generate a lesser degree of **significant** and **direct** impacts. **No indirect** impacts would occur. *[Lesser]*

NF

Similar types of effects from skyglow would occur under the No Federal Action Alternative as under the Proposed Project Alternative. However, under this alternative, an additional 328 acres would be set aside as a wetland preserve. Because 328 fewer acres would be developed and thus would not generate new sources of skyglow, implementation of the No Federal Action Alternative would generate a lesser degree of **significant** and **direct** impacts. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter visual character at the project site by mining the existing piles of dredge tailings, as well as the existing vegetation.

Because no development would occur, under the No Project Alternative there would be no project-related skyglow effects. **No direct or indirect** impacts would occur. *[Lesser]*

Mitigation Measure: Implement Mitigation Measure 3.11-6.

Implementation of Mitigation Measure 3.11-6 above would partially reduce significant impacts associated with effects from skyglow under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, but would not reduce impacts to a less-than-significant level. Because of the scale and location of the project site, screening or shielding light fixtures to direct light downward or the use of low-pressure sodium or other lighting would not reduce the effects of new skyglow on the night sky to a less-than-significant level; therefore, impacts would remain **significant and unavoidable**.

### Project Level (Phase 1) Impacts and Mitigation Measures

**IMPACT  
3.11-8**

**Alteration of a Scenic Vista.** *Implementation of development Phase 1 would result in the potential for project-related construction of new homes and businesses to degrade the visual quality of a scenic vista.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.11-1 for further discussion of this impact.

**IMPACT  
3.11-9**

**Damage to Scenic Resources within a State Scenic Highway.** *Implementation of development Phase 1 could result in the potential for adverse changes to an outstanding scenic resource visible from a state scenic highway.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.11-2 for further discussion of this impact.

**IMPACT  
3.11-10**

**Degradation of Visual Character.** *Implementation of development Phase 1 would substantially alter the visual character of the project site through conversion of an expanse of primarily undeveloped land to developed urban uses.*

Impacts would be the same under development Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.11-3 for further discussion of this impact.

Implementation of Mitigation Measure 3.11-3a would partially reduce impacts related to the degradation of the local viewshed through conversion of undeveloped rural lands (i.e., rural setting) to a large-scale urban development project under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, but would not reduce impacts to a less-than-significant level. Because of the scale and location of the project site, there is no feasible mitigation available to address aesthetic impacts associated with the conversion of rural land to urban development. Although inclusion of design, architectural, development, and maintenance standards in the specific plan is included as mitigation to require development in the project site to conform to the City’s adopted Design Guidelines, there is no mechanism to allow implementation of the project

while avoiding the conversion of the local viewshed from rural lands to large-scale urban development. Therefore, impacts would remain **significant and unavoidable**.

**IMPACT  
3.11-11**

**Temporary Degradation of Visual Character from Construction Activity and Staging Areas.**

*Implementation of the project would involve several phases of construction over a 25- to 30-year project horizon. Construction activity would involve the temporary use of staging areas for construction equipment and materials. In addition, construction activities would be visible to adjacent sensitive land uses.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.11-4 for further discussion of this impact.

Implementation of Mitigation Measure 3.11-4 would reduce significant impacts associated with the temporary effects from concurrent construction activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. However, because screening may not always be feasible, this temporary, construction-related impact would remain **significant and unavoidable**.

**IMPACT  
3.11-12**

**Temporary Degradation of Visual Character for Future Project-Related Land Uses from Ongoing Mining Activities.**

*Implementation of development Phase 1 would temporarily occur concurrently with mining operations, which could result in temporary visual character impacts on new residents.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.11-5 for further discussion of this impact.

Implementation of Mitigation Measure 3.11-5 in addition to Mitigation Measure 3.16-5, “Implement Measures to Improve Land Use Compatibility with Noise Sources,” would partially reduce significant impacts associated with temporary alteration of visual character for future project-related land uses from ongoing mining activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, but not to a less-than-significant level. Because screening that would provide an appropriate and complete visual barrier may not be practicable, this impact is considered **significant and unavoidable**.

**IMPACT  
3.11-13**

**New Light and Glare Effects.** *Development Phase 1 would require lighting of new development, which could inadvertently cause light and glare for motorists on White Rock Road, Sunrise Boulevard, and Douglas Road.*

PP, HD

Impacts related to light and glare would be greater under Phase 1 development than under the program (entire project site) level analysis under the Proposed Project and High Density Alternatives. This phase of development would not include a wetland preserve along the southern boundary of the project site that would help to provide a buffer between project-related lighting and motorists and residents south of Douglas Road. Refer to Impact 3.11-6 for further discussion of this impact. Impacts would be **direct** and **significant**. **No indirect** impacts would occur *[Similar]*

IM

Because the Impact Minimization Alternative provides for a wetland preserve in the southern portion of development Phase 1, a buffer between motorists and residents on the other side of Douglas Road would be created, and approximately 133 fewer acres of the project site would be developed in Phase 1, thus reducing the level of impacts as compared to the Proposed Project and High Density Alternatives. However, the same types of impacts would occur under Phase 1 development as under the program (entire project site) level, and because a large area of land would still be developed (967 acres), impacts would be **direct** and **significant**. **No indirect** impacts would occur. *[Lesser]*

NF Because the No Federal Action Alternative provides for a wetland preserve in the southern portion of development Phase 1, a buffer between motorists and residents on the other side of Douglas Road would be created, and approximately 133 fewer acres of the project site would be developed in Phase 1, thus reducing the level of impacts as compared to the Proposed Project Alternative. However, the same types of impacts would occur under Phase 1 development as under the program (entire project site) level, and because a large area of land would still be developed (982 acres), impacts would be **direct** and **significant**. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These mining activities would alter visual character at the project site by mining the existing piles of dredge tailings, as well as the existing vegetation.

Because no development would occur, under the No Project Alternative there would be no project-related sources of light and glare. **No direct** or **indirect** impacts would occur. *[Lesser]*

Implementation of Mitigation Measure 3.11-6 would reduce significant impacts associated with effects from new sources of light and glare (by reducing lighting intensity) under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.11-14**

**New Skyglow Effects.** *Development Phase 1 would require lighting of new development, which could inadvertently cause nighttime skyglow that would obscure views of stars, constellations, and other features of the night sky.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.11-7 for further discussion of this impact.

Implementation of Mitigation Measure 3.11-6 above would partially reduce significant impacts associated with effects from skyglow under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, but would not reduce impacts to a less-than-significant level. Because of the scale and location of the project site, screening or shielding light fixtures to direct light downward or the use of low-pressure sodium or other lighting would not reduce the effects of new skyglow on the night sky to a less-than-significant level; therefore, impacts would remain **significant and unavoidable**.

## **CUMULATIVE IMPACTS**

Development is increasingly changing the visual character along roadway corridors in both the city and the county, from grazing/rural lands and vast areas of open space to urban uses, thus altering and limiting the views available to motorists along these roadways and residents living in the area. This trend will continue as future projects are implemented in the region and in Rancho Cordova as a whole, consistent with growth planned in the City General Plan. Substantial changes in visual conditions will continue as agricultural lands and open space are replaced by urban development. Increased urban development will also lead to increased nighttime light and glare and subsequent skyglow in the region and more limited views of the night sky. This is especially the case in the southern area of Rancho Cordova, which is planned to undergo a large-scale change from open space to urban uses. The cumulative effect of these changes on aesthetic resources from past and planned future projects, as well as the contribution from the project, is considered a direct, significant impact. Although these cumulative impacts can be minimized to a degree through vegetative and topographic screening of structures, use of outdoor lighting that limits glare, appropriate building design, and other measures, the significant cumulative impact cannot be fully mitigated. Therefore, the cumulative change of agricultural and open-space views in the project region to

urban land uses and the associated increase in nighttime light and glare and subsequent skyglow are considered direct, adverse, and significant and unavoidable impacts. In addition, the project's incremental contribution to these impacts is cumulatively considerable (i.e., significant in and of itself).

### **3.11.4 RESIDUAL SIGNIFICANT IMPACTS**

Residually significant visual-quality impacts would remain from the conversion of the rural, undeveloped viewshed in the project site to urban development and from new skyglow effects on the night sky because no feasible mitigation is available to reduce these impacts to a less-than-significant level. The impacts would remain significant and unavoidable.

## **3.12 PARKS AND RECREATION**

### **3.12.1 AFFECTED ENVIRONMENT**

#### **REGIONAL ENVIRONMENT**

##### **Folsom Lake**

Folsom Lake is a State Recreation Area, located approximately 8 miles north of the project site, that serves the greater Sacramento area for summer recreation in the form of camping, hiking, biking, boating, and other outdoor recreation activities. The lake also hosts bass fishing tournaments that frequently draw fishermen from all over the state. The California Department of Parks and Recreation manages the Folsom Lake State Recreation Area, which includes Folsom Lake and the surrounding facilities. The lake features approximately 75 miles of shoreline and 80 miles of trails that provide opportunities for hiking, horseback riding, nature studies, camping, and picnicking. There are seven major recreation areas with facilities located around the lake. The Folsom Lake State Recreation Area, including Folsom Lake, is one of the most heavily used recreational facilities in the State Park system, with 2 to 3 million visitor days per year. Approximately 75% of the annual visitations to the Folsom Lake State Recreation Area occur during the spring and summer. Many (85%) of these activities are water dependent.

##### **Sacramento–San Joaquin Delta**

The Sacramento–San Joaquin Delta (Delta) includes portions of the cities of Sacramento and Stockton as well as several smaller cities and towns. The Delta encompasses 738,000 acres of land in portions of six counties and has nearly 1,000 miles of navigable channels. As such, recreation opportunities are generally water oriented, consisting primarily of boating and fishing. Other common activities include water skiing, wakeboarding, sailing, operating personal watercraft (e.g., jet skis), houseboating, kayaking, swimming, boat camping, and windsurfing. Land-based recreational activities in the Delta include hunting, camping, picnicking, walking, bicycling, viewing and photographing wildlife, sightseeing, and attending festivals and special events (DPC 2002). Access to the Delta is available via several locations along the Sacramento River from downtown Sacramento to Freeport (approximately 15 miles southwest of the project site), as well as numerous locations farther south (DWR 1995).

##### **Prairie City State Vehicular Recreation Area**

The Prairie City State Vehicular Recreation Area (SVRA), located on White Rock Road approximately 3 miles east of the project site, offers off-highway vehicle enthusiasts 836 acres of varying terrain and trails for motorcycles, all-terrain vehicles, and four-wheel-drive vehicles. The SVRA includes the Hangtown MX Track, which hosts the annual national outdoor MX (motocross) championship; the Quarter Midget Track, which is used by the American Quarter Midget Association for both practice and competitive events; and a 4x4 vehicle area, motorcycle/all-terrain vehicle (ATV) area, several practice tracks, a go-kart track, and several staging areas that include picnic facilities. The Prairie City SVRA is operated by the Off-Highway Vehicle Division of the California Department of Parks and Recreation and is open year-round (State Parks 2004).

#### **LOCAL ENVIRONMENT**

##### **County of Sacramento**

Park planning in Sacramento County is an interagency and interjurisdictional process. At the broadest level, the County of Sacramento (County) Department of Regional Parks, Recreation, and Open Space (DPROS) manages the regional-park system. Local parks (neighborhood and community parks) are planned primarily by the 18 parks and recreation districts located throughout the unincorporated and incorporated areas of the county. Parks in Rancho Cordova are planned by the Cordova Recreation & Park District (CRPD), discussed further below.

## **Department of Regional Parks, Recreation, and Open Space**

The County DPROS was established in 1959 with acquisition of land now known as the American River Parkway. Since that time, the County has expanded its total parklands to more than 11,000 acres, including the American River Parkway, Dry Creek Parkway, Mather Regional Park, Discovery Park, Elk Grove Regional Park, the Effie Yeaw Nature Center, and other historic and natural sites. In addition to traditional regional park activities, DPROS also oversees municipal golf activities that include four regional golf facilities.

### **American River Parkway**

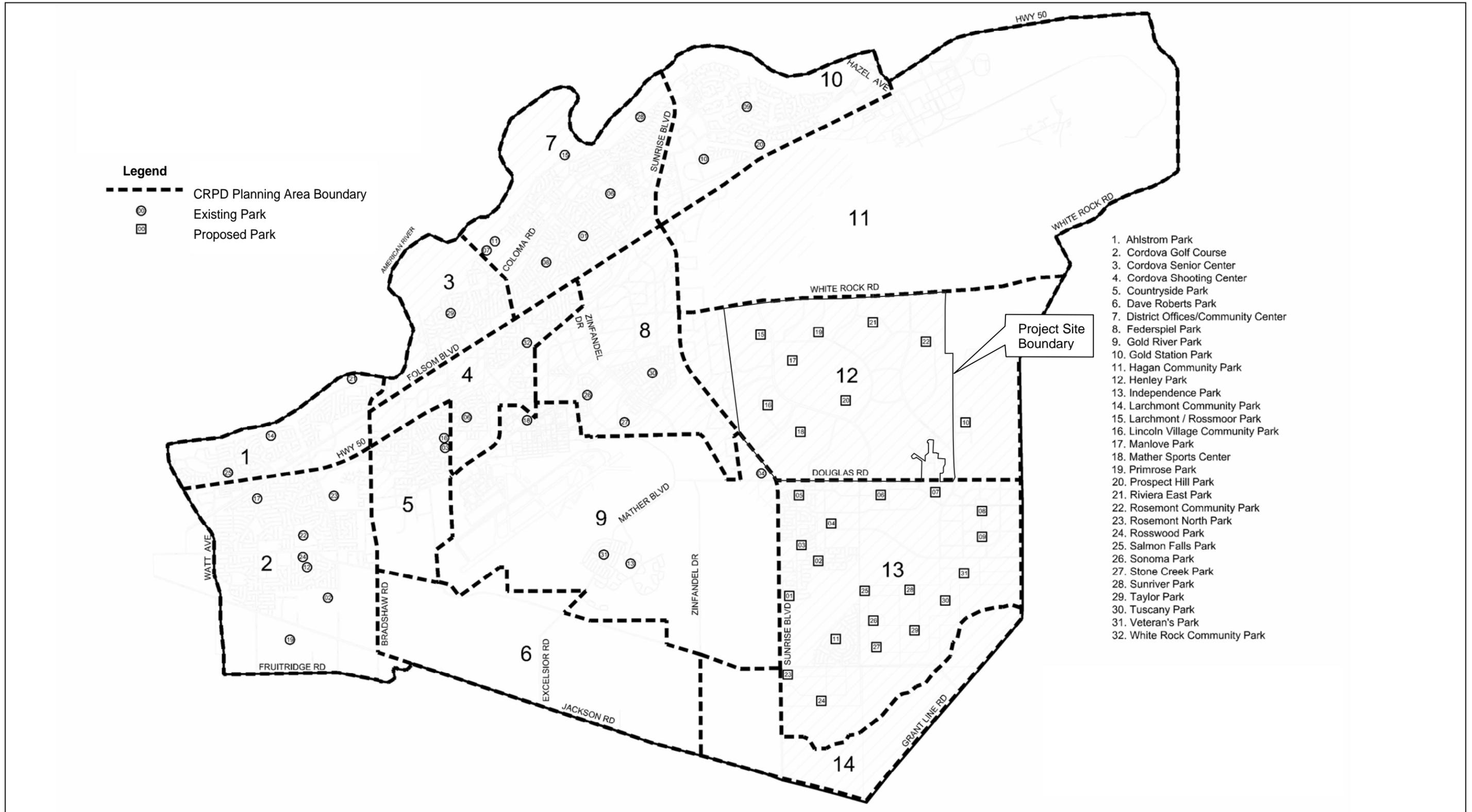
On January 19, 1981, approximately 23 miles of the American River, from the confluence with the Sacramento River to Nimbus Dam, was designated a National Wild and Scenic River by the National Park Service (NPS 2005). This short stretch of river, flowing through the city of Sacramento, is the most heavily used Wild and Scenic River in California. The river is located approximately 3 miles north of the project site. The American River Parkway (Parkway) is a river corridor/open space greenbelt that extends 23 miles from the confluence of the American River and the Sacramento River northeast to Nimbus Dam. The Parkway's trail system, which has been designated a "National Recreation Trail," includes the 32-mile-long multiuse (pedestrian, equestrian, and bicycle) Jedediah Smith Memorial Trail, which parallels the American River from Folsom to downtown Sacramento.

The Parkway is one of the most valuable recreation/open space assets in the region. It is a unique natural environment managed by DPROS. There are several points of entry to this recreation area. At the westerly end of the Parkway, La Riviera Drive and Mira del Rio Drive provide access to the SARA Park and Gristmill Dam Recreation Area. Farther east, Rod Beaudry Drive provides access to Goethe Park and Rossmoor Drive. El Manto Drive provides access from Coloma Road to the Rossmoor Bar area. Sunrise Boulevard provides access to the Sunrise (upper and lower) Recreation Area. At the easterly end of the community planning area, Hazel Avenue provides access to the Nimbus Fish Hatchery and Natoma State Recreation Area, which is managed by the California Department of Parks and Recreation as a component of the Folsom Lake State Recreation Area. Many neighborhoods also have pedestrian and bicycle access points to the Parkway; Gold River has several of these entryways.

An update of the *American River Parkway Plan* is currently under way, and is expected to be completed in the next 2–3 years. DPROS, the Sacramento Area Flood Control Agency, and the County Planning Department are taking the lead on this update.

### **Cordova Recreation & Park District**

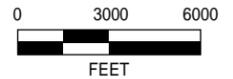
CRPD is located in the east-central portion of Sacramento County, south of the American River, and is bisected by U.S. Highway 50. CRPD is composed of 14 planning areas encompassing 65 square miles (Exhibit 3.12-1). The project site lies in the CRPD planning area. CRPD has the primary responsibility of providing recreation facilities and services within the Cordova Planning Area, which includes Rancho Cordova and the project site. CRPD's jurisdiction extends south beyond the boundaries of Rancho Cordova and project site to Jackson Road and Grant Line Road. CRPD administers a total of 438 acres, which includes 18 neighborhood parks, six community parks, four community swimming pools, the Cordova Community Center at Hagan Community Park on Chase Drive, the Cordova Senior Center on Routier Road, Mather Sports Complex, the Cordova Public Shooting Center on Douglas Road, and the Cordova Golf Course on Jackson Road (CRPD 2005). The Parkway (described above) is located in the CRPD planning area. Table 3.12-1 includes the names and locations and short descriptions of existing CRPD facilities. In fall 2005, CRPD adopted new standards that include a requirement of 5 acres of parkland per 1,000 residents, and the addition of performance standards for specific types of open space.



Source: Cordova Recreation & Park District Master Plan, January 2005

Existing and Proposed Park and Recreation Facility Locations

EXHIBIT 3.12-1



**Table 3.12-1  
Existing Cordova Recreation & Park District Facilities and Services**

Facility Name	Location	Description of Facilities
Ahlstrom Park	Zinfandel Drive and Cordova Lane, Rancho Cordova	7 acres with a Little League baseball field and picnic tables
Cordova Golf Course	9425 Jackson Road (one-half mile west of Bradshaw Road)	Pro shop, lighted driving range, practice putting green, electric carts, hand carts, golf club rentals, and restaurant
Cordova Senior Activity Center	3480 Routier Road, Sacramento	A full schedule of senior activities (e.g., watercolors, arts and crafts, yoga, and adult exercise)
Cordova Shooting Center	11551 Douglas Road, near Sunrise Boulevard	Outdoor shooting range with covered shooting positions, rental firearms, and classes available including basic handgun class (safety and shooting), state-approved hunter safety class, private shotgun lessons, and training to obtain a permit to carry a concealed weapon
Countryside Park	Glenmoor Drive, Rancho Cordova	2 acres with picnic tables and tot lot
Dave Roberts Community Park	Benita Drive and Mapola Way, Rancho Cordova	13 acres with a lighted softball field, tennis courts, regulation soccer field, and playground
Federspiel Park	Aramon Drive and Chassella Way, Rancho Cordova	4 acres with swimming pool, bantam soccer field, picnic tables, and playground
Gold River Park	Gold Country Boulevard and Poker Flat Drive, Gold River	6 acres with picnic tables, horseshoe pits, tot lot, playground, and bantam soccer field
Gold Station Park	Gold Station Road, Gold River	2.2 acres with picnic tables, playground, and bantam soccer field
Hagan Community Park	2197 Chase Drive, Rancho Cordova	75 acres with the Cordova Community Center, three swimming pools, eight tennis courts, eight group picnic areas, three baseball fields, three soccer fields, basketball court, petting zoo, playgrounds, tot lots, fitness course, and scale model stream railroad. Also provides access to the Jediah Smith Memorial Trail parallel to the American River, and foot access to the American River
Henley Park	Henley Drive, Rosemont	One-half acre with picnic tables and tot lot
Independence Park	Brittan Way and School Street, Mather	11 acres with picnic tables, restrooms, and playground
Larchmont Community Park	Linda Rio Drive, Sacramento	14 acres with two tennis courts, one bantam soccer field, one regulation soccer field, group picnic area, and playground
Larchmont-Rossmoor Park	Ambassador Drive, Sacramento	3 acres with softball field, soccer field, picnic tables, and playground
Manlove Park	Rose Parade Way and Spellbinder Court, Rosemont	3 acres with picnic tables and tot lot
Lincoln Village Community Park	3480 Routier Road, Sacramento	17 acres with a lighted softball field, four tennis courts, swimming pool, basketball court, group picnic area, and the Cordova Senior Center
Mather Sports Center	3755 Schriever Avenue, Mather	Aerobics, open gym, racquetball, weight rooms, and walking and jogging facility
Primrose Park	Off Hedge Road and Jackson Highway, Rosemont	2.4 acres with picnic tables and tot lot with play structure
Prospect Hill Park	Gold Flat Drive and Prospect Hill Drive, Rancho Cordova	7 acres with picnic tables, basketball court, bantam soccer field, and tot lot
Riviera East Park	Mira Del Rio Drive, Sacramento	9 acres with two tennis courts, bantam soccer field, basketball court, group picnic area, and tot lot

**Table 3.12-1  
Existing Cordova Recreation & Park District Facilities and Services**

Facility Name	Location	Description of Facilities
Rosemont Community Park	Americana Way, Rosemont	17 acres with four tennis courts, two Little League fields, softball field, playground, tot lot, and group picnic areas
Rosemont North Park	Huntsman Drive and Premier Way, Rosemont	3 acres with picnic tables and playground
Rosswood Park	Roseport Way and Rose Brook Way, Rosemont	1 acre with picnic tables and tot lot
Salmon Falls Park	Salmon Falls Drive, Sacramento	One-quarter acre, no permanent facilities
Sunriver Park	Klamath River Drive, Rancho Cordova	4.5 acres with picnic tables, ball field, basketball court, and tot lot
Taylor Park	West La Loma Drive, Rancho Cordova	3 acres with a tot lot, playground, and picnic tables
Veterans Park	Mather Boulevard, Mather	6.4 acres with a playground, tennis courts, basketball court, and a group picnic area
White Rock Park	10488 White Rock Road, Rancho Cordova	12 acres with a swimming pool, two tennis courts, group picnic areas, playground, and basketball court

Source: CRPD 2005

The existing park facilities nearest the project site are located in Planning Areas 8 (Zinfandel) and 9 (Mather) (Exhibit 3.12-1). The Zinfandel Planning Area contains three park facilities—two 4-acre neighborhood parks and a 21-acre community park. The Mather Planning Area contains four facilities—a shooting center, a sports center, and 6- and 7-acre neighborhood parks.

A total of 438 acres of parkland is located within the 14 CRPD planning areas. Using the new standard of 5 acres per 1,000 residents, and the projected 2005 CRPD population (112,765 residents) contained in the CRPD Draft Master Plan (CRPD 2005), CRPD currently has a deficit of 126 acres of parks under the existing CRPD population.

**Cordova Recreation & Park District Recreation Use Types**

CRPD has developed six park categories—mini parks; neighborhood parks; community parks; regional parks; linear parkways, greenbelts and open space; and bicycle trails—to meet the recreational needs of the community. The classification of each category is based on CRPD’s determination of use, function, acreage, service area, and population served. The proposed Rio del Oro project would include six neighborhood parks, one community park, and greenbelts and open space at various locations throughout the project site, as well as a network of bicycle trails.

**Cordova Parks & Recreation District and City of Rancho Cordova Open-Space Requirements**

The City of Rancho Cordova (City) was incorporated in July 2003. The City envisions, as identified in its general plan, a world-class system of parks and recreation that serves the needs of all residents. The system will include parks of all sizes (community and neighborhood) and types, with a variety of recreational and cultural programs and services. The park system will promote a citywide identity and make Rancho Cordova a regional destination for recreational uses, in part by increasing access, linkages, and usage of the American River Parkway, one of Rancho Cordova’s most important natural assets. Furthermore, trails and open space will be an integral part of the city’s newly developing areas. Open space promotes a healthy community by providing opportunities for active lifestyles, including multiuse trails, paseos, greenbelts, and parkways. Parks within Rancho Cordova are planned and maintained by CRPD. The Land Use Element of the *Rancho Cordova General Plan* (City General Plan) includes a “parks and open space” designation, which includes “public parks and other public facilities owned by the Cordova Recreation and Park District or other public agencies and lands which have been reserved for open

space uses such as lakes, trails, golf courses, and similar uses. Included in this category are commercial recreation facilities principally oriented to outdoor uses.” (City of Rancho Cordova 2006.)

### 3.12.2 REGULATORY FRAMEWORK

#### FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

The National Recreation and Park Association (NRPA) recommends that communities have a park system that includes 5–10 acres of developed parklands for every 1,000 residents. Although the amount of parkland varies from community to community and is not regulated by law, many communities have used the NRPA recommendation to develop a standard of 5 acres per 1,000 residents for traditional service/passive park acreage, with an additional 5 acres allocated for special-use facilities and open space (i.e., nontraditional parklands), for a total standard of 10 acres per 1,000 residents.

#### STATE PLANS, POLICIES, REGULATIONS, AND LAWS

##### Quimby Act

The Quimby Act was established by the California Legislature in 1965 to preserve open space and parkland in rapidly urbanizing areas of the state. The Quimby Act allows cities and counties to establish requirements for new development to dedicate land for parks, pay an in-lieu fee, or perform a combination of the two. The Quimby Act requires a city or county to adopt standards for recreational facilities in its general plan recreation element if it is to adopt a parkland dedication/fee ordinance.

It should be noted that the Quimby Act applies only to the acquisition of new parkland; it does not apply to the physical development of new park facilities or associated operations and maintenance costs. Therefore, the Quimby Act effectively preserves open space needed to develop park and recreation facilities, but it does not ensure the development of the land or the provision of park and recreation services to county residents. In addition, the Quimby Act applies only to residential subdivisions. Nonresidential projects could contribute to the demand for park and recreation facilities without providing land or funding for such facilities. As described below, CRPD collects Quimby Act fees.

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

##### Cordova Recreation & Park District

The City has collected Quimby Act fees since its incorporation in July 2003. Before 2003, the County collected Quimby Act fees in the planning area and distributed these funds to CRPD for use in developing and managing parkland. The County still collects Quimby Act fees for areas under CRPD jurisdiction that are not within Rancho Cordova boundaries and distributes these fees to CRPD (Frechette, pers. comm., 2005). These fees contribute to a fund that is used to acquire properties for future parkland development. CRPD continues to collect fees from the City and County to meet the Draft Master Plan parkland requirement. Fees collected under the Quimby Act are determined by CRPD. Table 3.12-2 lists CRPD standards for the provision of parklands.

Park Classification	Desirable Size (Acreage)	Service Area
Mini	1.5–2 acres	One-eighth to one-quarter mile
Neighborhood	5–15 acres	One-quarter to one-half mile
Community	20–150 acres	1 to 2 miles

Source: CRPD 2005

CRPD calculates its Quimby Act parkland standard based on the most current census information of people per household for Sacramento County. CRPD's Quimby Act standard for dedication of parkland is 5 acres per 1,000 residents.

## **Rancho Cordova General Plan**

Goals and policies of the City General Plan relating to parks and recreation that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### **3.12.3 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the State CEQA Guidelines, a parks and recreation impact is considered significant if implementation of the proposed project or alternatives under consideration would do either of the following:

- ▶ include new recreational facilities, or require the construction or expansion of existing recreational facilities, that might have a substantial adverse physical effect on the environment; or
- ▶ increase demand on existing neighborhood and community parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

#### **ANALYSIS METHODOLOGY**

The evaluation of recreational resources is based on a comparison between existing and planned future recreational facilities and the policies of the CRPD Draft Master Plan. In general, demand for recreational resources was estimated based on Draft Master Plan standards for parkland acreage relative to population size. The number of residents on the project site was estimated based on per-dwelling-unit population generation factors (see Section 3.2, "Population, Employment, and Housing"). Parklands (community and neighborhood parks) identified in the CRPD Draft Master Plan and those proposed for the project are the focus of this analysis. Open Space, Open Space Preserve, Private Recreation, and Public/Quasi-Public land uses (including multiuse stormwater detention basins) are not considered part of this analysis because CRPD does not consider these uses as meeting parkland dedication requirements; therefore, these uses were not included in the project's total parkland acreage.

Furthermore, the project would include more than 15 miles of Class I paved off-street bike paths, in addition to Class II and Class III bike paths, throughout the project site. However, because these uses are also not considered by CRPD as meeting parkland dedication requirements, they were not included in the project's total parkland acreage.

This analysis does not address various public and commercial recreational facilities, such as community centers, movie theaters, or gymnasiums, which can be expected to be developed as part of the project but which have not been specifically identified at this time. An analysis of open-space requirements is also not part of this analysis because meeting those requirements is a planning issue and is not considered to be an environmental issue.

#### **IMPACT ANALYSIS**

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

## Program Level Impacts and Mitigation Measures

### IMPACT 3.12-1

*Sufficiency of Project Site Parkland to Meet Increased Demand and Potential Increased Use and Deterioration of Existing Facilities.* Residential development proposed for the project site would require 5 acres of parkland per 1,000 residents to meet the adopted City standards. Project implementation could not increase the demand on existing neighborhood and community parks such that the physical deterioration of the existing facilities would occur or be accelerated.

### PP

Community parks created as part of the project would be located near the village core and would be easily accessible via numerous greenways linking the entire project site. Facilities in the community parks would include ball fields, soccer fields, tennis courts, basketball courts, and picnic and playground areas, as well as community gathering facilities such as an amphitheater and plaza. The neighborhood parks at the project site would serve as a focal point for each neighborhood, providing a gathering place with smaller scale recreational facilities, such as tot lots, playgrounds, multiuse turf fields, and picnic and barbeque areas. The project may also include an outdoor sports facility/adult sports park. Uses at this facility could include a water slide park, softball complex, soccer fields, and/or a stadium/amphitheatre with capacity to accommodate approximately 3,000 people.

CRPD requires 5 acres of parks for every 1,000 residents. Residential development under the Proposed Project Alternative would generate a population of 31,672 persons at buildout, which would require 158 acres of parks to meet the standard. The Proposed Project Alternative would include development of 63 acres of neighborhood parks and 107 acres of community parks for a total of 170 acres of parks (Table 3.12-3). Because 170 acres of neighborhood and community parks would be provided, implementation of this alternative would result in a 12-acre surplus. Additionally, if the sports park is constructed, a 52-acre surplus would result. Thus, the Proposed Project Alternative would provide sufficient park facilities to meet the demand generated by the project population at buildout, and there would be a **direct, beneficial** impact related to parkland acreage.

Alternative	Proposed community park (acres)	Proposed neighborhood park (acres)	Total of proposed parkland (acres) <sup>a</sup>	Parkland requirement per CRPD of 5 acres per 1,000 residents (acres)	Total surplus or deficit of parkland acreage compared with requirements <sup>b</sup>
Proposed Project	107	63	170 <i>210</i>	158	+12 <i>+52</i>
High Density	107	63	170 <i>210</i>	211	-41 <i>-1</i>
Impact Minimization	108	61	169 <i>209</i>	144	+25 <i>+65</i>
No Federal Action	107	75	182 <i>222</i>	145	+37 <i>+77</i>
No Project	0	0	0	0	0

Note: CRPD = Cordova Recreation & Park District  
<sup>a</sup>Total parkland including the sports park is shown in *italics*.  
<sup>b</sup>Total surplus/deficit with implementation of the sportspark is shown in *italics*.  
 Source: Data compiled by EDAW in 2006

Because implementation of the Proposed Project Alternative would result in a surplus of available parkland acreage, deterioration of existing neighborhood and community parks would not occur or be accelerated from increased demand, and there would be **no indirect** impacts.

**HD** Residential development under the High Density Alternative would generate a population of 42,282 persons at buildout, which would require 211 acres of parks to meet CRPD standards. Because only 170 acres of neighborhood and community parks would be provided, implementation of this alternative would result in a 41-acre shortfall (Table 3.12-3). Additionally, if the sports park is constructed, a 1-acre shortfall would result. Thus, the High Density Alternative would not provide sufficient park facilities to meet the demand generated by the project population at buildout. This demand for parks would result in a **direct, significant** impact.

Because implementation of the High Density Alternative would result in a deficit of available parkland acreage, deterioration of existing neighborhood and community parks could occur or be accelerated from increased demand. This impact is considered **indirect** and **potentially significant**. [*Greater*]

**IM** Residential development under the Impact Minimization Alternative would generate a population of 28,828 persons at buildout, which would require 144 acres of parks to meet CRPD standards. Because 167 areas of neighborhood and community parks would be provided, implementation of this alternative would result in a 25-acre surplus (Table 3.12-3). Additionally, if the sports park is constructed, a 65-acre surplus would result. Thus, the Impact Minimization Alternative would provide sufficient park facilities to meet the demand generated by the project population at buildout, and there would be a **direct, beneficial** impact related to demand for increased park acreage.

Because implementation of the Impact Minimization Alternative would result in a surplus of available parkland acreage, deterioration of existing neighborhood and community parks would not occur or be accelerated from increased demand. Thus, there would be **no indirect** impacts. [*Lesser*]

**NF** Residential development under the No Federal Action Alternative would generate a population of 29,388 persons at buildout, which would require 145 acres of parks to meet CRPD standards. Because 182 areas of neighborhood and community parks would be provided, implementation of this alternative would result in a 37-acre surplus (Table 3.12-3). Additionally, if the sports park is constructed, a 77-acre surplus would result. Thus, the No Federal Action Alternative would provide sufficient park facilities to meet the demand generated by the project population at buildout, and there would be a **direct, beneficial** impact related to demand for increased park acreage.

Because implementation of the No Federal Action Alternative would result in a surplus of available parkland acreage, deterioration of existing neighborhood and community parks would not occur or be accelerated from increased demand. Thus, there would be **no indirect** impacts. [*Lesser*]

**NP** Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Continued mining activities would have no effect on parkland.

No residential development would occur under this alternative and no population would be generated, thereby resulting in no demand for parks. As stated above, CRPD has an existing parkland acreage deficit. With no development occurring as a result of the No Project Alternative, no direct increase in population would occur for Planning Area 12, which includes the project site. CRPD would continue to have a deficit of 112 acres under existing population conditions. If development of all the planning areas occurs as planned using CRPD standards, even without the project, CRPD would have a net gain of 358 acres of park facilities. **No direct** impacts would occur. An **indirect, beneficial** impact would result. *[Lesser]*

#### Mitigation Measure 3.12-1: Develop a Parkland Plan and Comply with Parkland Requirements.

**HD** The project applicant(s) for all project phases except Phase 1 shall comply with CRPD's parkland requirements of 5 acres per 1,000 residents. To satisfy the parkland shortfall that would be created with project implementation, the project applicant(s) shall develop a parkland plan for review and approval by CRPD and the City. The parkland plan shall identify options to meet the standard of 5 acres per 1,000 residents, which may include dedication of additional parkland acreage either on- or off-site, payment of in-lieu fees, or expansion/improvement of existing park facilities.

**Timing:** Before approvals of tentative maps for all project phases except Phase 1.

**Enforcement:** Cordova Recreation & Park District and City of Rancho Cordova Planning Department.

**PP, IM, NF, NP** No mitigation measures are required.

With implementation of Mitigation Measure 3.12-1, additional parkland acreage would be dedicated or existing parks would be improved. Therefore, implementation of this mitigation measure would reduce significant impacts under the High Density Alternative associated with the insufficient parkland acreage that would be created with project implementation to a **less-than-significant** level. This mitigation measure would also reduce the indirect effect of potential deterioration of existing facilities that could result from increased demand to a **less-than-significant** level.

#### Project Level (Phase 1) Impacts and Mitigation Measures

##### IMPACT 3.12-2

*Sufficiency of Project Site Parkland to Meet Increased Demand and Potential Increased Use and Deterioration of Existing Facilities. Residential development proposed for the project site would require 5 acres of parkland per 1,000 residents to meet adopted CRPD standards. Implementation of development Phase 1 would result in a surplus of parkland. This surplus would provide much-needed parkland and would reduce or eliminate additional demand on existing neighborhood and community parks such that the physical deterioration of the existing facilities would not occur or be accelerated.*

**PP** CRPD requires 5 acres of parks for every 1,000 persons. Residential development proposed under development Phase 1 of the Proposed Project Alternative would generate a population of 8,174 persons at buildout. Implementation of development Phase 1 would provide 12 acres of neighborhood parks and 71 acres of community parks, for a total of 83 acres of parkland. Based on CRPD standards, the project would need to provide 41 acres of parks during development Phase 1. Phase 1 would therefore result in a 42-acre surplus (Table 3.12-4). Additionally, if the sports park is constructed, an 82-acre surplus would result. Sufficient park facilities would be provided to meet the population associated with development Phase 1; therefore, this **direct** impact is considered **beneficial**.

Table 3.12-4 Development Phase 1 Parkland Acreage Calculations					
Alternative	Proposed community park (acres)	Proposed neighborhood park (acres)	Total of proposed parkland (acres) <sup>a</sup>	Parkland requirement per CRPD of 5 acres per 1,000 residents (acres)	Total surplus or deficit of parkland acreage compared with requirements <sup>b</sup>
Phase 1—Proposed Project	71	12	83 <i>123</i>	41	+42 +82
Phase 1—High Density	71	12	83 <i>123</i>	53	+30 +70
Phase 1—Impact Minimization	71	12	83 <i>123</i>	52	+31 +71
Phase 1—No Federal Action	71	15	86 <i>126</i>	38	+48 +88
No Project	0	0	0	0	0

Note: CRPD = Cordova Recreation & Park District  
<sup>a</sup>Total parkland including the sports park is shown in *italics*.  
<sup>b</sup>Total surplus/deficit with implementation of the sports park is shown in *italics*.  
Source: Data compiled by EDAW in 2006

Because implementation of development Phase 1 under the Proposed Project Alternative would result in a surplus of available parkland acreage, deterioration of existing neighborhood and community parks would not occur or be accelerated from increased demand. Thus, there would be **no indirect** impacts.

**HD**

Residential development proposed under development Phase 1 of the High Density Alternative would generate a population of 10,686 persons at buildout. Implementation of development Phase 1 would provide 12 acres of neighborhood parks and 71 acres of community parks, for a total of 83 acres of parkland. Based on CRPD standards, the project would need to provide 53 acres of parks during development Phase 1. Development Phase 1 would therefore result in a 30-acre surplus (Table 3.12-4). Additionally, if the sports park is constructed, a 70-acre surplus would result. Sufficient park facilities would be provided to meet the population associated with development Phase 1; therefore, this **direct** impact is considered **beneficial**.

Because implementation of development Phase 1 under the High Density Alternative would result in a surplus of available parkland acreage, deterioration of existing neighborhood and community parks would not occur or be accelerated from increased demand. **No indirect** impacts would result. *[Similar]*

**IM**

Residential development proposed under development Phase 1 of the Impact Minimization Alternative would generate a population of 10,386 persons at buildout. Implementation of development Phase 1 would provide 12 acres of neighborhood parks and 71 acres of community parks, for a total of 83 acres of parkland. Based on CRPD standards, the project would need to provide 52 acres of parks during development Phase 1. Development Phase 1 would therefore result in a 31-acre surplus (Table 3.12-4). Additionally, if the sports park is constructed, a 71-acre surplus would result. Sufficient park facilities would be provided to meet the population associated with development Phase 1; therefore, this **direct** impact is considered **beneficial**.

Because implementation of development Phase 1 under the Impact Minimization Alternative would result in a surplus of available parkland acreage, deterioration of existing neighborhood and community parks would not occur or be accelerated from increased demand. **No indirect** impacts would result. *[Similar]*

NF Residential development proposed under development Phase 1 of the No Federal Action Alternative would generate a population of 7,414 persons at buildout. Implementation of development Phase 1 would provide 15 acres of neighborhood parks and 71 acres of community parks, for a total of 86 acres of parkland. Based on CRPD standards, the project would need to provide 38 acres of parks during development Phase 1. Development Phase 1 would therefore result in a 48-acre surplus (Table 3.12-4). Additionally, if the sports park is constructed, an 88-acre surplus would result. Sufficient park facilities would be provided to meet the population associated with development Phase 1; therefore, this **direct** impact is considered **beneficial**.

Because implementation of development Phase 1 under the No Federal Action Alternative would result in a surplus of available parkland acreage, deterioration of existing neighborhood and community parks would not occur or be accelerated from increased demand. **No indirect** impacts would result. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Continued mining activities would have no effect on parkland.

No residential development would occur under this alternative and no population would be generated, thereby resulting in no demand for parks. As stated above, CRPD has an existing parkland acreage deficit. With no development occurring as a result of the No Project Alternative, no direct increase in population would occur for Planning Area 12, which includes the project site. CRPD would continue to have a deficit of 112 acres under existing population conditions. If development of all the planning areas occurs as planned using CRPD standards, even without the project, CRPD would have a net gain of 358 acres of park facilities. **No direct** impacts would occur. An **indirect, beneficial** impact would result. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

## CUMULATIVE IMPACTS

Planned residential development in Rancho Cordova and associated increases in population will result in a cumulative increase in the demand for parkland. There is a current deficit of 112 acres of available parkland. However, the Proposed Project Alternative would not contribute to the current parkland deficit because it would meet CRPD parkland acreage requirements. Thus, because there would be a surplus of park acreage, implementation of the Proposed Project Alternative would not result in the acceleration of or deterioration of existing facilities from increased population. Because the Rio del Oro project would satisfy applicable standards, it would not exacerbate the existing CRPD parkland shortfall or make matters worse. For this reason, the project would not cause a cumulatively considerable (i.e., significant) incremental contribution to the significant cumulative effect caused by other projects.

The cumulative impacts discussion in Section 3.5, “Utilities and Service Systems,” provides a summary of impacts and mitigation measures related to water supply from the Water Forum Agreement (WFA). Sacramento County Water Agency is a signatory to the WFA; thus, its cumulative water supplies are subject to the provisions of that agreement. In January 1999, the joint Sacramento City-County Office of Metropolitan Water Planning published the Draft Environmental Impact Report (DEIR) for the WFA. The Final Environmental Impact Report (FEIR) for the WFA was certified on November 23, 1999, and has not been challenged. The certified FEIR constitutes a legally satisfactory analysis of all the issues addressed therein, including cumulative water supply impacts (see California Public Resources Code Section 21167.2). The WFA EIR determined that even after

mitigation is applied, the level of significance after mitigation would remain significant and unavoidable for the following issues related to recreational opportunities:

- ▶ reduced rafting and boating opportunities on the lower American River,
- ▶ reduced boating opportunities on Folsom Reservoir, and
- ▶ reduced availability of swimming beaches at Folsom Reservoir.

Therefore, the project and related projects would contribute to the indirect and direct significant impacts associated with recreational opportunities (resulting from water supply issues). Therefore, cumulative impacts associated with recreational opportunities along the lower American River and Folsom Reservoir would result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

### **3.12.4 RESIDUAL SIGNIFICANT IMPACTS**

With implementation of the mitigation measures described above, project implementation would not result in any residual significant impacts related to parks and recreation.

## 3.13 HAZARDS AND HAZARDOUS MATERIALS

This section discusses environmental conditions that are present today for the entire 3,828-acre project site and will be present in the future within the 2,728-acre Inactive Rancho Cordova Test Site (IRCTS). The IRCTS is owned by GenCorp Realty Investments (GenCorp), the parent company of Aerojet General Corporation (Aerojet); activities will be undertaken by Aerojet and McDonnell Douglas Corporation (MDC), a wholly owned subsidiary of the Boeing Company (Boeing), to characterize and remediate contaminants that are present in soil, soil vapor, and groundwater at the IRCTS because of historical uses at the project site. The IRCTS encompasses those lands within the area for Rio del Oro proposed development Phases 2–5 (refer to Chapter 2, “Alternatives,” for further discussion of project phasing). Soil within development Phase 1, owned by Elliott Homes, has been cleared by the California Department of Toxic Substances Control (DTSC) and does not require further cleanup. Remediation of the IRCTS includes ongoing activities that are being carried out under the oversight of DTSC and the Central Valley Regional Water Quality Control Board (RWQCB). These remedial activities are separate actions unrelated to the Rio del Oro project and have been presented to the public by DTSC as a Remedial Action Plan, which includes separate California Environmental Quality Act (CEQA) documentation and public-comment period.

This section also discusses issues associated with mosquito and vector control. Public health and safety issues related to emergency access and response and air quality are discussed in the “Public Services” and “Air Quality” sections of this draft environmental impact report/environmental impact statement (DEIR/DEIS).

### 3.13.1 AFFECTED ENVIRONMENT

#### TERMINOLOGY

Under Title 22 of the California Code of Regulations (CCR), a hazardous material is defined as a substance or combination of substances that may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness, or may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed (22 CCR Section 66261.10).

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or that are being stored until they can be disposed of properly. Hazardous materials and hazardous wastes are classified according to four properties: toxicity, ignitability, corrosivity, and reactivity (CCR Title 22, Chapter 11, Article 3), as described below.

- ▶ Toxic substances may cause short-term or long-lasting health effects that may be temporary or result in permanent disability or death. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline).
- ▶ Ignitable substances, such as gasoline, natural gas, and hexane (which can be mixed with solvents and used in cleaning products, and which is also found in gasoline and quick-drying glues) are hazardous because of their flammable properties.
- ▶ Corrosive substances, such as sulfuric acid (battery acid) and lye (used in soap-making and a component of liquid drain openers), can damage other materials or cause severe burns upon contact.
- ▶ Reactive substances, such as explosives, pressurized canisters, and pure sodium metal (which reacts violently when exposed to water), may cause explosions or generate gases or fumes.

Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific criteria listed in CCR Title 22. Cleanup requirements are determined on a case-by-case basis by the agency with lead jurisdiction over the project.

A few of the specific terms related to cleanup activities at the project site are defined below.

- ▶ **Remedial Investigation**—An in-depth study designed to determine the nature and extent of contamination at a site (e.g., what hazardous substances are present, how much there is, where it is).
- ▶ **Baseline Risk Assessment**—A study performed to provide risk managers with an understanding of the actual and potential risks to human health and the environment posed by the site, and any uncertainties associated with the assessment.
- ▶ **Feasibility Study**—An in-depth study designed to evaluate the effectiveness and costs of various remedial alternatives for the conditions defined by the Remedial Investigation and Baseline Risk Assessment.
- ▶ **Remedial Action Plan**—A plan, approved by DTSC, that outlines a specific program leading to the remediation of a contaminated site. Once the draft Remedial Action Plan is prepared, a public meeting is held and comments from the public are solicited for a period of no less than 30 days. After the public-comment period has ended and public comments have been responded to in writing, DTSC will generally approve the final remedy for the site (the final Remedial Action Plan). This plan is generally used for large, long-term projects.
- ▶ **Removal Action Workplan**—A plan that is similar to the Remedial Action Plan described above, but that is generally used for small, short-term projects.
- ▶ **Certificate of Completion**—A DTSC document that confirms that the Remedial Action Plan has been completed.
- ▶ **No Further Action**—The decision by DTSC that remedial actions are not necessary because environmental contamination is not present at a site.

## REGULATORY AND ENVIRONMENTAL HISTORY

The 3,828-acre Rio del Oro project site includes approximately 2,728 acres of land owned by GenCorp, referred to as the IRCTS (project development Phases 2–5), and approximately 1,100 acres of land owned by Elliott Homes, referred to as the Excluded Area (project development Phase 1) (Exhibit 3.13-1).

Gold-dredging activities took place over approximately 70% of the project site from the early 1900s until 1962. During the later years, from 1940 to 1962, these operations were conducted by the Natomas Company. In 1956, Aerojet purchased the project site from the Natomas Company and leased half of it to the Douglas Aircraft Company (DAC). Aerojet conducted limited testing of explosives and burned waste propellants and chemicals in two small areas within the other half.

In 1961, DAC purchased the entire Rio del Oro project site from Aerojet and established a static rocket assembly and testing facility known as the Sacramento Test Center. DAC constructed numerous structures at seven aerospace complexes and used other small undeveloped areas of the site for small-scale testing and to burn waste propellant. DAC merged with the McDonnell Aircraft Corporation in 1967 to become MDC. Rocket testing occurred at five of the aerospace complexes until 1969, while one complex was used for rocket assembly and one complex was used primarily for administrative and support services. These facilities were held in a state of readiness for rocket testing until 1972. The Sacramento Test Center was deactivated between 1972 and 1977; deactivation included demolition of the test stand superstructures. In 1984, Aerojet reacquired the 3,828-acre project site from MDC and used a small area for the discharge of treated groundwater.



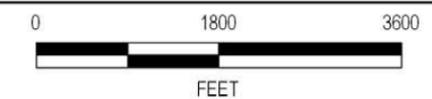
Source: Aerojet 2005, Sacramento County 2002

### Map of Areas Subject to Remedial Investigation and Feasibility Study (RI/FS)

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE

X 3T089.01 9/05

EXHIBIT 3.13-1



EDAW

The total area actually used by MDC and Aerojet was less than 350 acres of the 3,828-acre project site. More than 90% of the site served as a passive buffer on which no operations took place.

In 1979, trichloroethene (TCE) and other volatile organic compounds (VOCs) were detected in the groundwater on and surrounding the Aerojet National Priorities List (NPL) site north of the IRCTS (north of White Rock Road, in an area not part of the Rio del Oro project site). Investigations indicated that part of the contaminant plume was migrating southwest toward the IRCTS.

In November 1991, DTSC issued an Imminent and Substantial Endangerment Order (ISEO) to Aerojet and MDC to address the issue of TCE in a well located west of the IRCTS. Issuance of the ISEO established the IRCTS as a state Superfund site. Under the ISEO, MDC is responsible for evaluating the potential release of hazardous substances at the IRCTS from MDC historical activities, and Aerojet is responsible because of its ownership of the property. Under the provisions of the 1989 Partial Consent Decree (PCD) between Aerojet, the U.S. Environmental Protection Agency (EPA), and state regulatory agencies, Aerojet is required to address the potential release of hazardous substances at all areas where Aerojet conducted operations. EPA has delegated its authority for soils to DTSC under the ISEO, but has retained its authority for contaminated groundwater migrating from the Aerojet NPL site to the IRCTS.

In 1994, a second ISEO was negotiated with DTSC that superseded the 1991 ISEO. In June 1997, the Central Valley RWQCB issued Cleanup and Abatement Order (CAO) No. 97-093 to Aerojet and MDC for the investigation of perchlorate in groundwater beneath and downgradient of the IRCTS, implementation of corrective action for the perchlorate plume, and monthly sampling of municipal water supply wells at Mather Field for perchlorate analysis. The Boeing Company purchased MDC in 1997, and become responsible for completing MDC's portion of the remedial action work at the project site. Aerojet and Boeing have constructed numerous monitoring wells throughout the Rio del Oro project site, within roadways west of the project site, on private land south of the project site, and throughout the eastern half of Mather Field. In 2000, the Central Valley RWQCB revised the original CAO to implement the recommendations for remedial action as a result of the ongoing investigation of Mather Field, to monitor select municipal wells on a quarterly basis, and to provide for replacement water for affected wells.

## **EXCLUDED AREA**

The Excluded Area encompasses approximately 1,100 acres immediately west of the IRCTS. This area encompasses development Phase 1. The Excluded Area served as a buffer zone and was not used for aerospace testing or other industrial activities (Exhibit 3.13-1).

Aerojet completed an extensive study of the Excluded Area in search of evidence that historical aerospace/industrial activities (postgold mining via dredging) may have resulted in release of chemical contaminants to soil within the area. Findings from Aerojet's study are described in *Site Investigation of the Western Non-Aerospace/Non-Industrial Area at the Inactive Rancho Cordova Test Site* (Hydro-Search 1995). The Hydro-Search report concluded that the Excluded Area did not contain sources of chemical contamination as a result of aerospace/industrial activities. However, evidence of trash from illegal dumping activities (trash and junked cars), empty drums, and oily/tarry soils were encountered at various locations around the perimeter of readily accessible dredge tailings and at a former ranch site. The oily soils were located at the ranch site and contained diesel fuel and motor oil and trace amounts of polychlorinated biphenyls (PCBs). The tarry soils were located along Sunrise Boulevard. Following cleanup activities that included removal of the contaminated soil, trash, junked cars, and drums, DTSC issued a determination in 1997 to redefine the IRCTS to remove the 1,100-acre Excluded Area from the 1994 ISEO. The Excluded Area was purchased by Elliott Homes in 2001.

Although the soil is clean, groundwater beneath the Excluded Area, which is between 100 and 150 feet below the ground surface, is contaminated with VOCs (primarily TCE) and perchlorate. To address DTSC concerns about the contaminated groundwater, Aerojet reserved all rights to water lying below the surface of the Excluded Area

(project development Phase 1) and granted easements to DTSC for the installation of monitoring wells, extraction wells, and pipelines to address the remediation of the contaminated groundwater. These deed restrictions prohibit uses of this groundwater for potable or irrigation-water supply wells without DTSC approval. The sources of potable water for the Rio del Oro project are discussed in detail in Section 3.5, “Utilities and Service Systems,” in the “Water Supply” subsection.

## **SITE CONTAMINATION**

### **Residual Mercury**

Historically, gold mining processes have been shown to generate residual amounts of mercury, which sometimes can occur in concentrations large enough to generate risks associated with human health exposure. The risk to human health is limited to exposure by inhalation. The 2004 EPA Preliminary Remediation Goals (PRGs) list the threshold for inhalation exposure to elemental mercury in ambient air as 0.31 micrograms per cubic meter. The PRG for mercury compounds in soil varies from 18 milligrams per kilogram (mg/kg) for residential conditions to 310 mg/kg for industrial conditions; the PRG for mercury compounds in tap water is 11 micrograms per liter (µg/l). The California drinking-water standard is 2 µg/l for mercury.

### **Asbestos and Lead**

The IRCTS contains numerous concrete, steel, and wood structures that supported the historical rocket testing and assembly activities. These structures were constructed at a time when asbestos-containing materials (ACMs) and lead-based paints were used. Asbestos is designated as a hazardous substance when the fibers have potential to come in contact with air because the fibers are small enough to lodge in the lung tissue and cause health problems. The presence of ACMs in existing buildings poses an inhalation threat only if the ACMs are found to be in a friable state. If the ACMs are not friable, there is no inhalation hazard because asbestos fibers remain bound in the material matrix. Emissions of asbestos fiber to the ambient air, which can occur during activities such as renovation or demolition of structures made with ACMs (e.g., insulation), are regulated in accordance with Section 112 of the federal Clean Air Act.

Human exposure to lead has been determined by EPA and the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) to be an adverse health risk, particularly to young children. Demolition of structures containing lead-based paint requires specific remediation activities regulated by federal, state, and local laws.

### **Soil and Groundwater**

Rocket testing and assembly activities occurred in various locations throughout the 2,728-acre IRCTS, which does not include the 1,100-acre Excluded Area owned by Elliott Homes (i.e., development Phase 1). To structure the study of soil and groundwater within the IRCTS, Aerojet and MDC divided the IRCTS into subareas that are identified as Operable Units (OUs). The OU designations define each study area boundary for the purpose of investigating the presence of chemical contaminants. Operable Units within the IRCTS are listed below, starting with the aerospace OUs. Other OUs are included for other activities that require characterization and potential remediation.

- ▶ Alpha Complex
- ▶ Beta Complex
- ▶ Kappa/Gamma Complex
- ▶ Sigma Complex
- ▶ Sigma Debris Area
- ▶ DM14 Assembly Area
- ▶ Circular Feature

- ▶ Propellant Burn Area
- ▶ Metal-Lined Hole
- ▶ Antenna Station
- ▶ GET F Sprayfield
- ▶ Municipal Landfill (White Rock Dump No. 1)
- ▶ Rice Hull Ash Area
- ▶ By-Dry Site
- ▶ Central Area

An additional OU within the IRCTS, the Administration Area (Security Park), is outside of the Rio del Oro project site. Because it is not part of this project, it is not discussed further in this DEIR/DEIS.

Soil investigations at each of the OU study areas included the collection of soil, soil vapor, and/or sediment samples. The samples were analyzed for VOCs, semivolatile organic compounds, metals, hydrazine, nitrosodimethylamine, PCBs, perchlorate, and/or kerosene. As detailed below, soil at the IRCTS has been contaminated with TCE, freon, methylene chloride, kerosene, perchlorate, dioxins and furans, lead, and other metals. Groundwater beneath the IRCTS has been contaminated with VOCs (primarily TCE) and perchlorate. The information presented below was obtained from the *Elliott Homes, Inc., Revised Hazardous Materials Technical Study for the Inactive Rancho Cordova Test Site and Associated Lands* (ERM 2003), which provides a summary of Aerojet and MDC documents prior to 2003; from various additional Aerojet and MDC documents that have been prepared since 2003; and from discussions with the Aerojet project manager for the IRCTS (Fricke, pers. comm., 2005 and 2006).

### **Alpha Complex**

The Alpha Complex consisted of two test stands, an Initial Operational Capability (IOC) test area, a blockhouse, and support buildings on approximately 50 acres. The complex was originally used for static firing of the Thor liquid rocket. Thor rockets used liquid oxygen and a refined kerosene fuel. TCE was used to clean rocket engine assemblies. During static firing, large quantities of water were used to reduce heat and noise generated by the rocket engine. The water containing TCE was captured in a collection basin that discharged to a nearby drainage. Wastewater was discharged via a septic tank and leach field. Investigative studies determined that TCE, Freon-113, perchloroethylene (PCE), cis-1,2-DCE, methylene chloride, perchlorate, and kerosene are the principal contaminants of concern found in soil and groundwater. A soil vapor extraction system has been operating at the Alpha Complex since 2002 to remove VOCs from the soil. A Feasibility Study is in progress to address perchlorate in soil and contaminants in groundwater.

### **Beta Complex**

The Beta Complex includes approximately 120 acres that contained two rocket test stands and support facilities that were used for static firing of the Saturn S-IVB liquid rocket engine. Saturn S-IVB rocket engines used liquid oxygen and liquid hydrogen as fuels. Assembly of the engines is reported to have involved the use of small quantities of TCE for cleaning purposes. During firing, large quantities of water were used to reduce heat and noise generated by the motor. Following a review of analytical data demonstrating that contaminants of concern were largely absent or occurred at levels below environmental and human-health thresholds, DTSC approved a No Further Action designation for the Beta Complex in 2002.

### **Kappa/Gamma Complex**

The Kappa/Gamma Complex includes approximately 30 acres. Earliest operations at this area began in 1958 as the second IOC area, which consisted of facilities for testing the deployment of the Thor rocket under stormy weather conditions. Static firing did not occur at IOC-2. Solvents may have been used to cleanse the engine after the rocket was loaded with kerosene, which may have been burned in a small pit west of the facility.

Following IOC-2 decommissioning in 1961, the Kappa Complex was constructed for development and testing of hydrogen components. Gaseous nitrogen, liquid hydrogen, liquid argon, liquid nitrogen, and helium were used.

The Gamma Complex was constructed in 1964 for evaluation of the use of self-igniting propellants and testing of engines and supply systems. Hydrazine fuels, nitrogen tetroxide, gaseous helium, and gaseous nitrogen were used.

Testing activities generated wastewater that was channeled to concrete-lined burn basins. After chemicals floating on the surface of the wastewater were burned off, the remaining fluids were pumped to an unlined percolation pond that contained several deep, dry wells to enhance the percolation of wastewater into the soil. Currently, shallow soil within the Kappa/Gamma Complex contains VOCs. DTSC approved a Remedial Action Plan for institutional control (land use restrictions) in January 2006. These land use restrictions would be defined before development of this area.

### ***Sigma Complex***

The Sigma Complex includes approximately 25 acres that were used for static firing of solid-rocket motors. The Sigma Complex was later the site of “hogout” operations that involved removing solid-rocket fuel from rocket motors using a high-pressure water knife. Effluent from the hogout activities was diverted into two unlined ponds. The effluent contained pieces of solid-rocket propellant and would have dissolved ammonium perchlorate from the fuel. The recovered solid-rocket propellant was removed from the effluent and burned at the Propellant Burn Area (discussed below). The Baseline Risk Assessment concluded that perchlorate in the shallow soil at the Sigma Complex did not occur at concentrations that would pose a risk to human health. However, perchlorate concentrations in deeper soil were found to increase with depth and would continue to affect groundwater. A Feasibility Study is being prepared to evaluate potential remedial actions for deep soil and to minimize further impacts of perchlorate on regional groundwater.

### ***Sigma Debris Area***

The Sigma Debris Area includes an approximately 5-acre depression created during gold-mining activities. The depression was used by MDC for limited disposal of inert material during the demolition of the facility, and by persons not associated with aerospace activities. The inert debris is composed of scattered drums, construction and demolition debris, food cans, and glassware. Signs of burning were also observed. The area is reported to have received its name from its proximity to the Sigma Study Area. The Remedial Investigation did not identify any contaminants of concern at this site. The Central Valley RWQCB concurred with these findings but recommended the removal of the debris before future site development.

### ***DM-14 Assembly Area***

The DM-14 Assembly Area includes approximately 20 acres that were used for assembly and painting of Genie solid-rocket motors. There were three buildings, totaling approximately 15,000 square feet, that were surrounded on three sides by earthen berms to prevent damage in case of an explosion. Sampling data indicated that Freon-113, probably from a shallow sump that historically received liquid waste from the painting activities, was the principal contaminant of concern. In addition, PCBs in soil associated with a pole-mounted transformer were identified as a potential human-health risk for future residential housing. Remedial Investigations/Baseline Risk Assessments are in progress. Some form of institutional control, such as a land use restriction, may be required for development in this area.

### ***Circular Feature***

The Circular Feature is a 400-foot-diameter area on top of a ridge of dredge tailings that was reported to have been used by Aerojet for Card Gap Testing of small quantities of energetic material during the late 1950s and by DAC during the early 1960s for the explosive/burning characterization of liquid hydrogen. A personnel bunker was constructed about 500 feet north of the site. Soil samples and analytical testing showed no evidence of soil

contamination at this site. In 2002, DTSC and the Central Valley RWQCB approved a No Further Action determination for this site.

### ***Propellant Burn Area***

The Propellant Burn Area includes approximately 9 acres of dredge tailings where liquid and solid-rocket propellants and chemicals were burned. The Propellant Burn Area was used intermittently between 1957 and 1963. Solid-rocket propellants, containing ammonium perchlorate, aluminum, and some heavy metals, were transported to the Propellant Burn Area either within the existing motor casings or as fragments from the hogout operations (described above) and burned in stacks on the ground along with the containers of chemicals. Liquid propellants were burned in metal troughs. As a result of the burning activities, shallow soils are contaminated by dioxins and perchlorate at levels above residential PRGs and by perchlorate and TCE in deeper soils. A Remedial Action Plan has been approved by DTSC for shallow soils, and removal of soils contaminated with dioxin began in August 2005. These soils were transported to the Forward Landfill in Manteca, California. Additional soils were removed to the landfill during October 2005.

### ***Metal-Lined Hole***

The Metal-Lined Hole area occupies an approximately 1- to 2-acre location that contains two 80-foot circular concrete curbs and a 1.8-foot-diameter by 9-foot-deep vertical steel pipe surrounded by a 6-foot-square concrete pad (36 square feet), approximately 1 foot thick. The Metal-Lined Hole was originally found to be full of an oily fluid of unknown origin. The oily fluid was pumped into three drums by MDC for proper off-site disposal. The Metal-Lined Hole was filled with bentonite and capped with a layer of cement. The site was leased to Cetec Antenna Company in 1978 and was subsequently decommissioned during the late 1980s. The Metal-Lined Hole was used for a vertical antenna array and the concrete curbs were used for horizontal antenna arrays. The Final Remedial Action Plan for this site indicated that the trace VOC concentrations of limited extent near the site did not warrant further remedial actions. The Final Remedial Action Plan was approved by DTSC in December 2000.

### ***Antenna Station***

The Antenna Station is an approximately 1-acre location within a dredge pit. The station comprises a satellite dish and control building at the bottom of the pit, along with a sump to remove water and a small transmission tower near the top of the pit. The station was constructed during the late 1970s—possibly in 1977, based on the absence of the facility in a 1973 aerial photograph, its presence in a 1978 photograph, and a power pole with “77” nailed on to it. The dredge pit is dry following years of low to normal precipitation; however, following years of high precipitation, the pit becomes inundated. VOCs were detected at extremely low levels, well below residential PRGs, and could be laboratory artifacts. The Antenna Station is not considered to be a source of contamination and was recommended for the No Further Action designation (ENSR International 2004). DTSC concurred with this recommendation in April 2005.

### ***GET F Sprayfield***

The GET F Sprayfield includes approximately 30 acres that were used for the disposal of approximately 1.6 billion gallons of treated groundwater from the Sector F groundwater extraction and treatment (GET F) facility located on the north side of White Rock Road. The sprayfield was operated by Aerojet from December 1984 through February 1990 and from late July through September 1990. The GET F facility used air stripping technologies to remove VOCs from groundwater. However, at the time that the sprayfield was in operation, perchlorate was not regulated and treatment technology was not available; thus the subsurface soils at the GET F Sprayfield became contaminated with low levels of perchlorate. The remedial investigation of perchlorate began in 2005.

### ***Municipal Landfill (White Rock Dump No. 1)***

White Rock Dump No. 1 includes approximately 5 acres that were operated as a burn dump for municipal refuse disposal. According to County of Sacramento (County) records, the County contracted with a private individual to operate the dump between November 1955 and July 1957. However, a review of aerial photographs indicates that the dump had already been established by 1952. After burning, ash and noncombustible materials were pushed into piles along the eastern and southern sides of the dump. Analysis of soil samples indicated that lead is the primary contaminant of concern, although cadmium and nickel are also present at concentrations above their respective residential PRGs. The County is responsible for completing the remediation work. Pending DTSC approval of the Remedial Action Plan, the dump site will be covered with clean soil to a depth of 5 feet, which would prevent public access to any dump site materials. The site is proposed as a park adjacent to an open-space preserve designated under the Rio del Oro project.

### ***Rice Hull Ash Area***

The Rice Hull Ash Area includes approximately 25 acres that were used by the Beagle Products Company from the late 1940s through the mid-1960s to burn rice hulls. The site was leased to Greasweep Western in 1983, which mined and bagged the rice hull ash and sold it for use as an oil absorbent. Following soil testing, DTSC concurred in 2001 that the rice hull ash did not fall under the category of a hazardous waste. Greasweep Western ceased its operations in spring 2005. Soil tests indicated that the rice hull ash could be used as a soil amendment during future development activities to improve the texture and moisture retention capacity of clay soils at the project site. Alternatively, the ash could be hauled off-site and disposed of in a landfill.

### ***By-Dry Site***

The By-Dry site was originally used as a feed products facility, which included storage and processing of raw materials for compost, feeds, and fertilizer. Fertilizer was produced using tomato skins and an on-site kiln was used to produce bone meal. The feed products facility operated from the mid-1950s through 1983. Aerojet completed a Remedial Investigation in November 2005 to identify and delineate the vertical and horizontal extent of any contamination that may be present or to address any minor impacts that may have resulted from nonaerospace activities. Piles of ash were found along the northwestern fence. The primary contaminants of concern include dioxins and lead. Aerojet has submitted a Removal Action Workplan to DTSC and will transport the material to a landfill. Because the site also has a shallow water-supply well that generates clean water, other contamination is not expected. The By-Dry site is currently used by the Clark Cattle Company as headquarters for its operations at the Rio del Oro project site.

### ***Central Area***

The Central Area Operable Unit is composed of the buffer lands that separate the above discussed OUs, and equates to the vast majority (nearly 2,000 acres) of the total 2,728-acre IRCTS. Aerojet completed a Remedial Investigation in November 2005 to confirm the absence of any impacts or to address any minor impacts that may have resulted from nonaerospace activities. Remedial actions will not be required for the vast majority of these buffer lands.

## **CLEANUP PROCESSES**

Environmental investigation and cleanup at the project site have been and will be conducted under the 1994 ISEO from DTSC with extensive input from the Central Valley RWQCB. Although the 1997–2000 CAO from the Central Valley RWQCB applies to the IRCTS, most of the CAO has been applied to the western boundary of the project site and areas farther downgradient. Remedial actions at the project site consist of soil and groundwater treatment and are the responsibility of Aerojet and/or MDC (Boeing) and, in the case of White Rock Dump No. 1, the County. The City of Rancho Cordova (City) and the project applicant(s), including future developers in the

proposed Rio del Oro Specific Plan area, have no responsibility to participate in or oversee these activities and will not take possession of properties involved in cleanup until remediation has been completed to levels required by state law.

As described above, geography was the primary basis for defining an Operable Unit (OU) even though remediation goals and treatment processes may be similar. The remediation process for each OU begins with a baseline survey to identify the types and locations of contamination, called a Remedial Investigation. If contamination is not found, DTSC issues a No Further Action determination. If contamination is found, a Baseline Risk Assessment is prepared, and is then followed by a Feasibility Study, which evaluates alternatives for cleanup. A Remedial Action Plan is then prepared for the OU. A Removal Action Workplan may be prepared for the small projects. These plans identify the selected cleanup process(es) and proposed timeline(s) that will be used, and is reviewed by the appropriate regulatory agencies and members of the public. A CEQA Initial Study/Negative Declaration or Mitigated Negative Declaration is included as an appendix in the Remedial Action Plan with a concurrent public-review period. Following regulatory agency approval of the Remedial Action Plan, the actual cleanup activities can begin. As indicated in Table 3.13-1, some cleanup activities take only a few years to complete; others, such as full remediation of groundwater, will continue for decades. When remediation is complete to an established level such that health risks are reduced to an acceptable level, DTSC will issue a Certification of Completion.

## **Groundwater Cleanup**

Groundwater investigations at the project site have been ongoing since 1984 to characterize the site's hydrogeology, evaluate the direction of groundwater flow, and assess the extent of groundwater contamination. The project site has been subdivided into three separate groundwater study areas (Exhibit 3.13-2) based on the sources of chemicals and their potential effects on the groundwater, as discussed below.

### ***Western Groundwater Operable Unit***

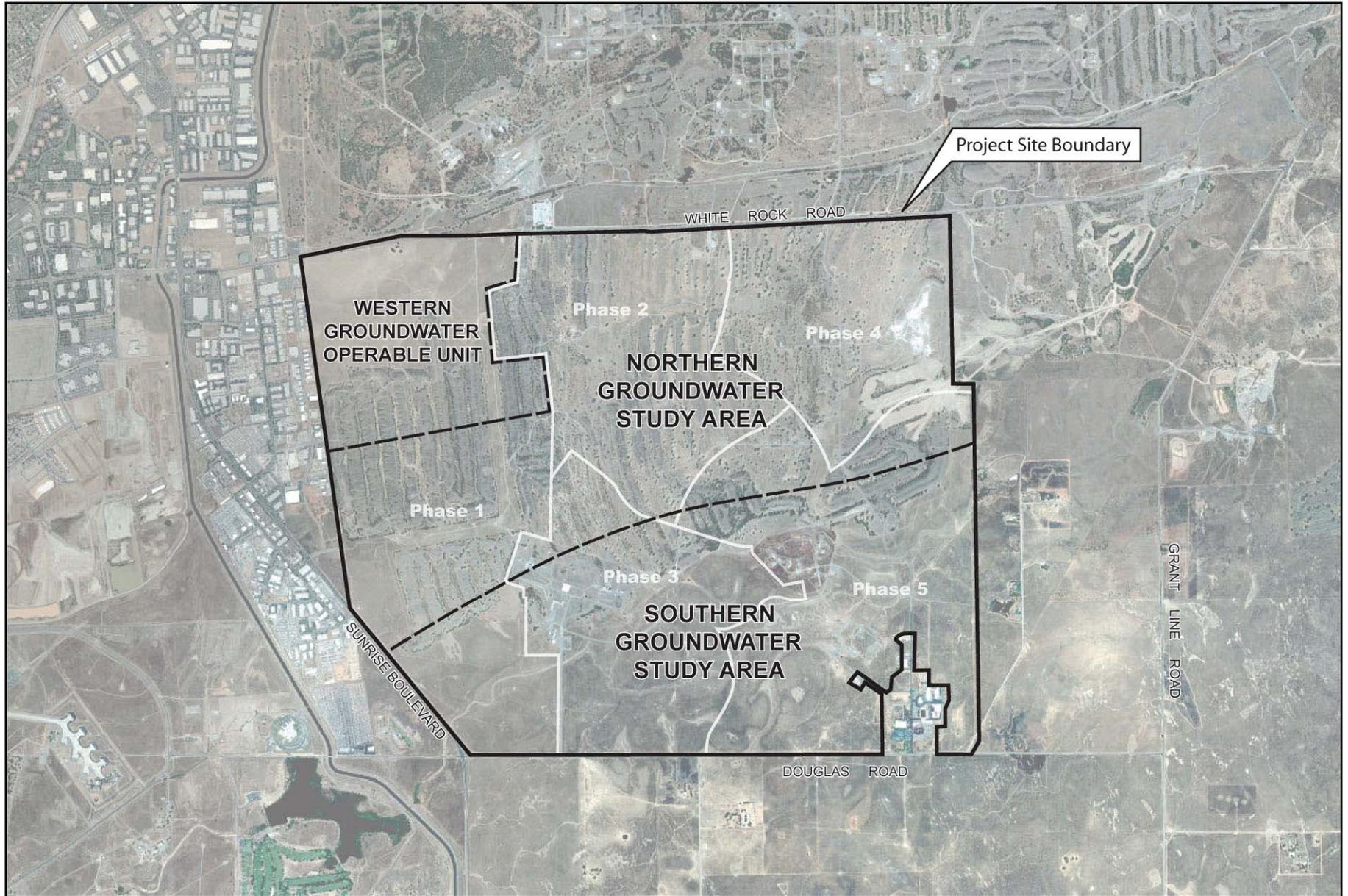
The Western Groundwater Operable Unit (WGOU) includes the northern portion of the Excluded Area (development Phase 1) (Exhibit 3.13-2). This area was designated to address chemicals in the groundwater originating from the GET F Sprayfield and the Aerojet NPL site located north of White Rock Road. One former domestic well, one inactive GET well, and 16 monitoring wells have been installed at 17 locations in the WGOU. Sampling data indicate that VOCs (primarily TCE) and perchlorate are the primary chemicals of concern in the groundwater, and that the direction of groundwater flow is primarily toward the west-southwest. The migration of this groundwater is controlled by several extraction wells and a treatment system at locations west of Sunrise Boulevard. The domestic well and monitoring wells are measured for water levels on a semiannual basis and water samples are collected periodically for laboratory analysis to track the movement of the contaminant plumes.

Although the WGOU is located within the 1,100-acre Excluded Area, which was removed from provisions of the 1994 ISEO issued for the IRCTS, the Grant Deed for the property in the Excluded Area prohibits the public from using the contaminated groundwater without approval from DTSC. As such, drilling into groundwater by future Rio del Oro landowners would be considered a trespass of Aerojet's "Water Estate" and the easements granted to DTSC for monitoring wells, extraction wells, and pipelines.

### ***Northern Groundwater Study Area***

The Northern Groundwater Study Area (NGSA) includes the central portion of development Phase 1 and all of development Phases 2 and 4 of the Rio del Oro project (Exhibit 3.13-2). This area was designated to address chemicals in the groundwater originating from the Propellant Burn Area, Sigma Complex, and the DM-14 Assembly Area, as well as the Aerojet NPL site located north of White Rock Road. One active domestic well, three inactive water-supply wells, three inactive GET wells, and 63 monitoring wells (70 total) have been installed at 61 locations in the NGSA. Sampling data indicate that VOCs (primarily TCE) and perchlorate are the

<b>Table 3.13-1 Summary of Primary Study Areas, Primary Constituents of Concern, and Regulatory and Investigation Status on the Rio del Oro Project Site</b>								
IRCTS Primary Study Areas and Responsible Company	Primary Constituents of Concern		Regulatory and Investigation Status and Schedule					
	Soil and/or Sediment	Groundwater	RI Workplan	RI Completed	BRA Completed	FS Completed	RAP Completed	RD Completed
<b>McDonnell Douglas Corporation/Boeing Corporation</b>								
DM-14 Assembly Area	Freon-113 Other VOCs	TCE Perchlorate	October 1996	June 2005	June 2005	NA	NFA	NA
Alpha/IOC-1 Complex	TCE PCE Methylene chloride Cis-1,2-DCE Freon-113 Kerosene	TCE Perchlorate	May 1997	July 2002	July 2002	June 2005	2006; RAW approved November 2001 (soil vapor extraction)	2006
Beta Complex	None	NA	May 2000	October 2001	NFA	NFA	September 2002	NFA
Kappa/Gamma/IOC-2 Complex	TCE Methylene chloride Freon-113	NA	August 1996	February 2000	February 2000	NA	January 2006 (institutional controls)	NA
Sigma Complex	Perchlorate	Perchlorate	June 1997	October 2002	October 2002	June 2005	2006	2007
Southern Groundwater Study Area	NA	TCE Perchlorate	April 1998	June 2003	December 2004	June 2005	2006	2007
<b>Aerojet General Corporation</b>								
GET F Sprayfield	Perchlorate	Perchlorate	2006	TBD	2007	2007	TBD	TBD
<b>Aerojet General and McDonnell Douglas/Boeing Corporations</b>								
Propellant Burn Area	Perchlorate Dioxins & Furans	TCE Perchlorate	June 1995	May 2000 (revised)	September 1998	September 2001	September 2002	September 2003
Circular Feature	None	NA	July 1996	June 2002	NFA	NFA	September 2002	NFA
Northern Groundwater Study Area	NA	TCE Perchlorate	April 1998	February 2003	December 2004	June 2005	2006	2007
<b>Aerojet General Corporation and Sacramento County</b>								
Municipal Landfill (White Rock Dump No. 1)	Lead Other Metals	NA	August 2002	June 2004	March 2005	July 2005	2006	2007
Notes: BRA = Baseline Risk Assessment; FS = Feasibility Study; IRCTS = Inactive Rancho Cordova Test Site; NA = Not applicable; NFA = No Further Action; PCE = tetrachloroethene; RAP = Remedial Action Plan; RAW = Removal Action Workplan; RD = Remediation Design; RI = Remedial Investigation; TBD = To be determined; TCE = trichloroethene Sources: ERM 2003; Fricke, pers. comm., 2005 and 2006								



Source: ERM 2003

## Groundwater Study Area

EXHIBIT 3.13-2

primary chemicals of concern in the groundwater, and that the direction of groundwater flow is primarily toward the west-southwest. A Feasibility Study and a Baseline Risk Assessment were submitted to DTSC and the Central Valley RWQCB in 2004. (The Southern Groundwater Study Area was also addressed by these documents.) A revised Feasibility Study was submitted in June 2005 and in April 2006 in response to comments from DTSC and the Central Valley RWQCB. The Remedial Action Plan is in progress. The monitoring wells are measured for water levels on a semiannual basis and water samples are collected periodically for laboratory analysis to track the movement of the contaminant plumes.

### ***Southern Groundwater Study Area***

The Southern Groundwater Study Area (SGSA) includes development Phases 3 and 5 of the Rio del Oro project (Exhibit 3.13-2). This area was designated to address chemicals in the groundwater originating from the Alpha Complex and the Administration Area (Security Park). Three water-supply wells (one active and two inactive), three GET wells, and 49 monitoring wells (55 total) have been installed at 47 locations within the SGSA, excluding the Security Park and the area south of Douglas Road. Note that one supply well, two GET wells, and 21 monitoring wells (24 total) are located within the wetland preserve at 21 locations. The supply wells are owned by the California-American Water Company and the active supply well provides water to the businesses in the Security Park.

Sampling data indicate that VOCs, primarily TCE and perchlorate, are the primary chemicals of concern in the groundwater, and that the directions of groundwater flow vary from south at the Security Park to southwest at other locations further west. The active supply well has not been affected by these chemicals.

DTSC approved an interim Remedial Action Plan in January 2006 for the initial operation of a groundwater control system while work continues on the sitewide groundwater Feasibility Study (NGSA and SGSA). One extraction well and a temporary GET system were installed during 2004 at the intersection of Douglas Road and the entrance to the Beta Complex. The GET system began operating on a limited basis during July 2005 and began continuous operations in October 2005. Two additional extraction wells were installed along Douglas Road during 2005 and will be connected to the temporary GET system along with extraction wells south of Douglas Road (on land that is part of the Sunrise Douglas Community Plan area) to remediate contaminated groundwater moving south from the Security Park.

### **Soil Cleanup**

Cleanup processes that are being used or are proposed for use with contaminated soils focus on the excavation of shallow soil, the isolation of soils, and the removal of contamination through other processes. Soil vapor extraction is one technique being used to remove VOCs in deep soil. In this technology, a vacuum is applied through wells drilled near the source of contamination in the soil. Volatile constituents of the contaminated soil “evaporate” and the vapors are drawn toward the extraction wells. Extracted vapor is then treated as necessary (commonly with carbon adsorption) before being released to the atmosphere. The increased air flow through the subsurface can also stimulate biodegradation of less volatile petroleum hydrocarbons. Other treatment methods include physical removal of the soil and disposal at a landfill permitted to accept classified hazardous wastes, or, in certain public use areas, covering the contaminated area to a depth of at least 5 feet with a clean soil “cap.”

### **MOSQUITO/VECTOR CONTROL**

The mosquito population in the Sacramento Valley is most active in the spring and early summer. The female mosquito needs blood in order to produce eggs. Hosts that can supply blood include reptiles, amphibians, mammals, birds, and humans. All mosquito species are potential vectors of organisms that can cause disease to pets, domestic animals, wildlife, or humans.

The project site is located within the Sacramento-Yolo Mosquito and Vector Control District (District). The District employs technicians certified by the Vector-Borne Disease Section of the California Department of Health Services (DHS) in pesticide usage, and mosquito and vector identification. The District solves mosquito problems using Integrated Pest Management techniques, which include surveillance and monitoring of mosquito breeding sources, reduction of mosquito breeding sites, community outreach and public education, and the use of chemical and biological methods to control both mosquito larvae and adult mosquitoes (Sacramento-Yolo Mosquito and Vector Control District 2006). The District's mosquito control program is contained in its *Mosquito and Mosquito-Borne Disease Management Plan* (adopted 2003, amended 2005) (Sacramento-Yolo Mosquito and Vector Control District 2003).

The District applies chemicals at extremely low rates, as recommended by the U.S. Environmental Protection Agency (EPA). Pesticides in use include biological controls, such as *Bacillus* sp.; methoprene, an insect growth regulator; and pyrethrins and pyrethroids, all of which have been evaluated and are regulated by EPA. Biological larvicides include *Bacillus thuringiensis israelensis* (*Bti*) and *Bacillus sphaericus* (*B*), which are naturally occurring bacteria. EPA indicates that the microbial pesticides *Bti* and *B. sphaericus* have undergone extensive testing before registration. They are essentially nontoxic to humans, so there are no concerns about human health effects with *Bti* or *B. sphaericus* when they are used according to label directions. EPA testing also indicates that there are no risks to wildlife, nontarget species, or the environment associated with these microbial pesticides, when used according to label directions (EPA 2006a). Only mosquitoes, black flies, and certain midges are susceptible to these bacteria. Other aquatic invertebrates and nontarget insects are unaffected. Larvicidal oils and monomolecular films are used to drown the mosquito larvae in their later aquatic stages, when they are not feeding, by forming a thin coating on the surface of the water. For example, methoprene is an insect growth regulator that is target-specific and is designed not to harm mammals, waterfowl, or beneficial predatory insects.

EPA also indicates that pyrethroids can be used for public health mosquito control programs without posing unreasonable risks to human health when applied according to the label. They also do not pose unreasonable risks to wildlife or the environment, although pyrethroids are toxic to fish and to bees. For that reason, EPA has established specific precautions on the label to reduce such risks, including restrictions that prohibit the direct application of products to open water or within 100 feet of lakes, streams, rivers, or bays (EPA 2006b). The District uses pyrethrins and pyrethroids for its adult mosquito fogging program in and around populated areas. Pyrethrins are insecticides that are derived from an extract of chrysanthemum flowers, and pyrethroids are synthetic forms of pyrethrins. These are generally applied by truck-mounted or handheld foggers. These materials used to control both adult and larval mosquitoes are registered with EPA, which evaluates safe use by assessing potential human health and environmental effects associated with use of each product (EPA 2006c).

### **3.13.2 REGULATORY FRAMEWORK**

Although numerous federal, state, and local laws and regulations pertaining to hazardous waste management are applicable to remedial activities at the project site, conformance with these laws and regulations is addressed through separate environmental review and regulatory oversight specifically associated with the remedial activities. These remedial activities are separate actions that are not part of the proposed Rio del Oro project.

Federal, state, and local laws and regulations that would apply to construction and operational activities as part of the project are listed below.

#### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

##### **Hazardous Materials Handling**

At the federal level, the principal agency regulating the generation, transport, and disposal of hazardous substances is EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). The RCRA established an all-encompassing federal regulatory program for hazardous substances that is administered by

EPA. Under the RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. The RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments of 1984 (HSWA), which specifically prohibits the use of certain techniques for the disposal of various hazardous substances. The Federal Emergency Planning and Community Right to Know Act of 1986 imposes hazardous-materials planning requirements to help protect local communities in the event of accidental release. EPA has delegated much of the RCRA requirements to DTSC.

### **Worker Safety Requirements**

The U.S. Department of Labor, Occupational Safety and Health Administration is responsible at the federal level for ensuring worker safety. OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for the handling of hazardous substances (as well as other hazards). OSHA also establishes criteria by which each state can implement its own health and safety program.

## **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

### **Hazardous Materials Handling**

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires preparation of Hazardous Materials Business Plans and disclosure of hazardous-materials inventories. A Business Plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the state. Local agencies, including the County Department of Environmental Management and the City, administer these laws and regulations.

### **Worker Safety Requirements**

The California Occupational Safety and Health Administration (Cal-OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within California. Cal-OSHA regulations pertaining to the use of hazardous materials in the workplace, as detailed in CCR Title 8, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans. Cal-OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous-waste sites. The hazard communication program requires that Material Safety Data Sheets be available to employees and that employee information and training programs be documented.

### **Emergency Response to Hazardous Materials Incidents**

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous-materials incidents is one part of this plan. The plan is managed by the Governor's Office of Emergency Services (OES), which coordinates the responses of other agencies including the California Environmental Protection Agency, California Highway Patrol, California Department of Fish and Game, Central Valley RWQCB, County Sheriff's Department, and City Police and Fire Departments.

### **Hazardous Materials Transport**

The U.S. Department of Transportation regulates transportation of hazardous materials between states. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous

materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. Together, these agencies determine container types used and license hazardous-waste haulers for transportation of hazardous waste on public roads.

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

The County is responsible for enforcing the state regulations that govern hazardous-substance generators, hazardous-substance storage, and underground storage tanks (including inspections, enforcement, and removals).

### **Rancho Cordova General Plan**

Goals and policies from the *Rancho Cordova General Plan* relating to hazards and hazardous materials that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

### **Local Regulatory Authority for Remedial Activities at the Project Site**

Under the 1994 ISEO issued to Aerojet and MDC, the DTSC and Central Valley RWQCB have regulatory authority over studies to determine the character and extent of chemicals that are found to originate in soil and groundwater beneath the IRCTS. Under the 1997 CAO (revised 2000), the Central Valley RWQCB has regulatory authority over the occurrence of perchlorate beneath the IRCTS and over the off-site migration of perchlorate. In addition, EPA, DTSC, and the Central Valley RWQCB have regulatory authority over chemicals that originate from the Aerojet NPL site and have migrated into groundwater beneath the IRCTS. Other agencies with regulatory authority include the Sacramento Metropolitan Air Quality Management District (for emissions into the atmosphere) and the County Environmental Management Department (for well construction permits and hazardous-materials plans).

In 1991, DTSC issued an Imminent and Substantial Endangerment and Remedial Action Order to Aerojet and MDC that required them to perform activities necessary to investigate and remediate contamination present in soil and groundwater beneath the IRCTS. The 1991 order was replaced in 1994 by DTSC's issuance of an Imminent and Substantial Determination and Consent Order. The 1994 order clarified the regulatory requirements for the Remedial Investigation/Feasibility Study process and remediation of contaminants in soil, soil vapor, or groundwater at the IRCTS.

The regulatory framework for contaminant studies within the IRCTS is structured from the following three documents:

- ▶ June 1989 Partial Consent Decree (PCD), which directs EPA, DTSC, the Central Valley RWQCB, and Aerojet on issues related to contaminants in groundwater from the Aerojet NPL site that have migrated beneath the IRCTS;
- ▶ June 1994 Imminent and Substantial Endangerment Order (ISEO), which directs DTSC, Aerojet, and MDC on issues related to contaminants in soil, soil vapor, and groundwater beneath the IRCTS; and
- ▶ June 1997 (revised September 2000) Cleanup and Abatement Order (CAO), which directs the Central Valley RWQCB, Aerojet, and MDC on issues related to perchlorate in groundwater beneath the IRCTS and the off-site migration of perchlorate.

The first document obligates Aerojet to perform studies and collect data sufficient for EPA, DTSC, and the Central Valley RWQCB to verify the character and extent of contaminants in groundwater from the Aerojet NPL site. The next two documents obligate Aerojet and MDC to complete activities required to reduce the concentration of contaminants to levels that DTSC and the Central Valley RWQCB find to be protective of human health and the environment. The PCD and the ISEO include community participation guidelines. Both

documents are available for public review at the DTSC office, located at 8800 Cal Center Drive in Sacramento, California. The CAO is available for public review at the Central Valley RWQCB office, located at 11020 Sun Center Drive, Suite 200, Rancho Cordova, California.

Chemicals could currently be present in soil and groundwater within the IRCTS (development Phases 2–5) at concentrations exceeding thresholds defining hazardous wastes or threats to human health as defined by regulations contained in CCR Title 22. Development of the aerospace OUs within project development Phases 2–5 cannot occur until DTSC issues a Certification of Completion to Aerojet and MDC for the OUs within each development phase.

### **3.13.3 ENVIRONMENTAL CONSEQUENCES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the State CEQA Guidelines, a hazards and hazardous materials impact is considered significant if implementation of the proposed project and alternatives under consideration would do any of the following:

- ▶ create a public-health hazard through the use, production, generation, release, or disposal of materials that pose a hazard to human, animal, or plant populations;
- ▶ expose construction workers to hazardous materials that would create health risks during construction; or
- ▶ create a health or potential health hazard;
- ▶ be located on a hazardous materials site that is included on the list generated by Government Code Section 65962.5 (Cortese List);
- ▶ create a safety hazard for people living or working in the project area as a result of a project located within an airport land use plan or within 2 miles of a public airport, or in the vicinity of a private airstrip;
- ▶ impair implementation of interfere with an adopted emergency response plan; or
- ▶ expose people to a significant risk of loss, injury, or death from exposure to wildland fires.

The project site is not a hazardous materials site that is contained within the Cortese List. Hazards related to proximity to airports are evaluated in Section 3.1, “Land Use,” and Section 3.16, “Noise.” The project’s potential impacts related to emergency response and emergency access are evaluated in Section 3.6, “Public Services.” Finally, because the project site is not located within a wildland fire hazard zone, that impact is not discussed further in this DEIR/DEIS.

As control of areas where remediation occurred is transferred from Aerojet to developers and future property owners, they would become subject to all City and County requirements relating to the use, handling, transport, and disposal of hazardous materials that may be used during construction or operation of the Rio del Oro project.

#### **ANALYSIS METHODOLOGY**

This analysis is based on a site visit, discussions with Aerojet, and a review of the following documents:

- ▶ *Elliott Homes, Inc., Revised Hazardous Materials Technical Study for the Inactive Rancho Cordova Test Site and Associated Lands*, Environmental Resources Management (ERM), March 2003 (ERM 2003);

- ▶ *Aerojet-General Corporation, Draft Assessment Report and RI/FS Workplan for the Central Area Operable Unit Inactive Rancho Cordova Test Site*, Sacramento, California, ERM-West, Inc., October 2004 (ERM-West 2004); and
- ▶ *The Boeing Company and Aerojet General Corporation, Inactive Rancho Cordova Test Site (IRCTS), Draft Baseline Risk Assessment for the Northern and Southern Groundwater Study Areas*, ENSR International, December 2004 (ENSR International 2004).

## IMPACT ANALYSIS

### Program Level Impacts and Mitigation Measures

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each section impact conclusion (i.e., similar, greater, lesser).

<b>IMPACT</b> <b>3.13-1</b>
--------------------------------

**Possible Exposure to Contaminated Soil or Groundwater.** *Construction workers or future residents would not be exposed to contaminated soil or groundwater.*

PP, HD, IM,  
NF

Project development of some aerospace OUs within the 2,728-acre IRCCTS (Rio del Oro development Phases 2–5) would be limited by the presence of contaminated soils until Aerojet and/or MDC completes investigation and cleanup activities within each OU. DTSC will issue a Certification of Completion when soil cleanup activities are complete, indicating that risks to human health and the environment have been found to be at or below minimum threshold levels. Studies performed at the request of Aerojet (Borch 1995a, 1995b) found that the dredge tailings at the project site do not contain toxic levels of trace elements (such as mercury). As discussed in Impact 3.13-6 below, soils in the 1,100-acre development Phase 1 area are not contaminated. Therefore, construction workers and future residents and employees associated with project development would not come into contact with contaminated soil. DTSC will also include deed restrictions on future development that will prohibit residential or commercial use of groundwater beneath the project site. Construction workers associated with project development would not come into contact with contaminated groundwater because groundwater levels typically range between 50 and 160 feet below the current ground surface, and project-related excavation activities would not exceed depths of 15–20 feet. Therefore, there would be **no direct** or **indirect** impacts arising from human exposure to contaminated soil or groundwater. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Aerojet and/or MDC are required to complete cleanup actions related to soil and groundwater pursuant to the requirements of DTSC and Central Valley RWQCB (EPA for groundwater only in the northeastern NGSAs) regardless of whether the project is implemented and regardless of whether mining is occurring. According to the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005), the Aerojet mining site in the eastern portion of the project site is within 250 feet of the Alpha Complex, which was built and operated by MDC to test rocket engines. TCE was used to clean engine parts and has been found in soil and groundwater beneath the Alpha Complex. However, the Alpha Complex site is fenced, and available data from soil and groundwater testing indicate that TCE contamination does not

extend to near-surface soil east of the fenced complex, where the current Teichert mining operations are located. Thus, TCE contamination would not present a hazard to activities at that mining site. Soil is not contaminated at the location of the Grantline West mining activities.

Because construction and development activities would not occur under the No Project Alternative, there would be **no** project-related **direct** or **indirect** impacts related to potential exposure of construction workers or future residents to contaminated soil or groundwater. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.13-2**

**Possible Delays in Development of Future Land Uses from Remediation Activities.** *Ongoing remediation activities could delay or limit the availability of proposed land uses at or near the site of those remediation activities.*

PP, HD, IM,  
NF

Soil and groundwater contamination at the project site has been delineated and remediation is ongoing or planned for the near future, based on monitoring, risk assessment, and remediation design. Ongoing remediation may delay or limit the availability of some proposed land uses at or near the contaminated sites. The severity of contamination or level of remediation effort at these sites may limit future land uses by the developers and future landowners to a certain extent. Regulatory review would ensure that any site-specific land use limitations are identified and required when the land is made available for development. Based on the results of Remedial Investigations conducted so far, DTSC may place limits on future land uses where appropriate through deed restrictions and easements on conveyances, and use restrictions on leases. Aerojet will also retain right of access to certain properties to operate and maintain the monitoring wells or to conduct other remediation activities.

This **direct** impact is considered **potentially significant**. There would be **no indirect** impacts. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Remediation activities will continue at the project site while mining activities are occurring and will occur either with or without project development.

Because the project would not be implemented under this alternative, there would be no project-related potential delays to or interference with completion of remediation activities or proposed land uses; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

**Mitigation Measure 3.13-2a: Require the Project Applicant(s) to Cooperate with Aerojet and Regulatory Agencies to Preserve, Modify, or Close Existing Groundwater Monitoring Wells.**

PP, HD, IM,  
NF

The project applicant(s) for all project phases shall submit copies of tentative maps for residential subdivisions and for nonresidential uses to Aerojet, DTSC, and the Central Valley RWQCB or any successor in interest for review and approval. Aerojet, DTSC, and the Central Valley RWQCB or any successor shall work with the project applicant(s) to establish the preservation, modification, or closure of existing groundwater wells. If necessary, Aerojet, MDC, or any successor may purchase lots from the project applicant(s) to maintain access to monitoring wells. Development shall not proceed until DTSC and the Central Valley RWQCB have approved Aerojet's or a successor's plan for well preservation, modification, or closure.

**Timing:** Before approval of tentative maps for all project phases.

**Enforcement:** California Department of Toxic Substances Control, Central Valley Regional Water Quality Control Board, Aerojet General Corporation, and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

**Mitigation Measure 3.13-2b: Coordinate Development Activities to Avoid Interference with Remediation Activities.**

PP, HD, IM, NF The project applicant(s) for all project phases shall provide notice to Aerojet or any successor in interest and DTSC, the Central Valley RWQCB, and the City of the location, nature, and duration of construction activities within each phase of development at least 1 month before the construction activities begin in areas on or near property with current or planned remediation activities. Before the approval of grading plans for all project phases, the project applicant(s) shall work with Aerojet, DTSC, and the Central Valley RWQCB or any successor to schedule the timing of construction activities to prevent potential conflicts with remediation activities.

**Timing:** Before the approval of grading plans and during construction activities for all project phases.

**Enforcement:** California Department of Toxic Substances Control, Central Valley Regional Water Quality Control Board, Aerojet General Corporation, and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

**Mitigation Measure 3.13-2c: Notify the City in Writing that DTSC-Required Notification Obligations Regarding Deed Restrictions and/or Easements Have Been Fulfilled.**

PP, HD, IM, NF Pursuant to its oversight over investigations of hazardous substances and determination of remedial action, DTSC establishes, as appropriate, deed restrictions (e.g., restrictions on future groundwater uses or future land uses) or easements (e.g., continued access to groundwater wells and pipelines) on property with associated notice requirements. The project applicant(s) for all such affected project phases shall provide notification in writing to the City that said required DTSC notification obligations have been fulfilled. Evidence of the method of notification required by DTSC shall be submitted to the City before approval of final maps and/or the issuance of permits for sales trailers and model homes. The project applicant(s) for such affected project phases shall coordinate with the City to include this provision as part of tentative map approval.

**Timing:** Before approval of final maps and/or issuance of permits for sales trailers and model homes for all project phases.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measures 3.13-2a, 3.13-2b, and 3.13-2c would reduce the potentially significant impact from possible delays to or interference with completion of remediation activities and development of future land uses under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.13-3**

**Possible Exposure to Hazardous Building Materials.** *Project implementation could result in potential exposure of construction workers to asbestos and/or lead-based paint as a result of demolition of existing on-site structures.*

PP, HD, IM,  
NF

On-site structures were constructed with asbestos-containing building materials (e.g., insulation, transite sheeting) and lead-containing materials (e.g., paint, sealants, pipe solder), which could become friable or mobile during demolition activities and come into contact with construction workers, resulting in a health hazard. Potential project-related exposure of humans and the environment to ACMs and materials containing lead is considered a **potentially significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City.

Because construction activities would not occur under this alternative, there would be no potential for project construction workers to be exposed to potentially harmful asbestos fibers or lead-containing materials; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

**Mitigation Measure 3.13-3: Conduct a Hazardous-Building-Materials Study and Implement all Applicable Regulations.**

PP, HD, IM,  
NF

Before the approval of demolition permits for any existing on-site buildings, the project applicant(s) for all project phases except development Phase 1 shall hire a qualified consultant to investigate whether any of the existing on-site structures contain lead or ACMs that could become friable or mobile during demolition activities. If lead-containing materials or ACMs are found, the project applicant(s) shall coordinate with the County Environmental Management Department to ensure that such materials are properly removed (i.e., by an accredited inspector in accordance with EPA and Cal-OSHA standards). In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal-OSHA standards related to exposure of workers to asbestos and lead. The lead-containing materials and ACMs shall be handled properly and transported to an appropriate off-site disposal facility.

**Timing:** Before the approval of demolition permits for existing on-site structures and during all demolition activities for all project phases except development Phase 1.

**Enforcement:** County of Sacramento Environmental Management Department and City of Rancho Cordova Planning Department.

NP

No mitigation measures are required.

Implementation of Mitigation Measure 3.13-3 would reduce the potentially significant impact of possible exposure of construction workers to asbestos and/or lead-containing materials from the demolition of existing on-site structures under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.13-4**

**Use of Hazardous Materials On-Site.** *Project implementation would involve the storage, use, and transport of hazardous materials at the project site during demolition, construction, and operation activities.*

PP, HD, IM,  
NF

Development of the project site with residential and commercial uses would involve the storage, use, and transport of hazardous materials (e.g., asphalt, fuel, lubricants, and solvents) during construction and demolition activities. In addition, commercial uses associated with project operation could include facilities such as gas stations and dry cleaners that could use and routinely transport hazardous materials on and off the project site. Direct impacts include those that could result from the use and transport of hazardous materials during construction activities. Indirect impacts include those that could result from future commercial operations on the project site that use, store, or transport hazardous materials. Transportation of hazardous materials on area roadways is regulated by the California Highway Patrol and the California Department of Transportation, and use of these materials is regulated by DTSC, as outlined in Title 22 of the CCR. The project applicant(s), builders, contractors, business owners, and others would be required to use, store, and transport hazardous materials in compliance with federal, state, and local regulations during project construction and operation. Facilities that would use hazardous materials on-site after the project is constructed would be required to obtain permits and comply with appropriate regulatory agency standards designed to avoid releases of hazardous wastes. Because the project would implement and comply with existing hazardous-materials regulations, it is unlikely that impacts related to creation of significant hazards to the public through routine transport, use, disposal, and risk of upset would occur with project development. Therefore, this direct impact is considered **less than significant**. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. According to the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005), mining activities would not involve the routine transport of hazardous materials. Although mining activities would involve the use of oils, fuels, lubricants, and other potentially hazardous substances associated with equipment maintenance, these materials would be limited in quantity and would be stored off-site.

Because project development would not occur under this alternative, there would be no project-related risk associated with storage, use, or transport of hazardous materials; thus, **no direct or indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT**  
3.13-5

**Potential Safety Hazards from Construction Activities and Mining Operations.** *Ongoing project-related construction activities and nonproject-related mining operations could disrupt the surrounding residential and commercial uses and result in potential safety hazards to construction workers and residents.*

PP, HD, IM,  
NF

As described in Chapter 2, “Alternatives,” project construction is anticipated to occur over five phases, which may or may not occur simultaneously, with the anticipated buildout in 25–30 years. Construction would require grading of the project site and development of new buildings and parking lots, utility relocations and installations, and roadway construction. Ongoing construction activities could result in some disruption of the surrounding residential and commercial uses and occur in proximity to existing development where people may be present.

Fenced construction staging areas would be established during each phase of Rio del Oro project development. These fenced staging areas would be used for storage of vehicles, equipment, materials, fuels, lubricants, and solvents. The stockpiling or vehicle staging areas would be

identified in the improvement plans and would be located as far as practical from developed land uses.

Aggregate mining operations would be ongoing during most phases of project construction, placing sensitive land uses (such as new residences and schools) adjacent to mining operations. The operation of heavy equipment, as well as excavation and transport of aggregate, could pose a safety hazard to these land uses. After completion of mining operations, each mining area would be developed according to the land use map. After completion of mining activities, all safety hazards associated with mining operations would be eliminated.

Even with the planned precautions listed above, construction activities and mining operations could result in hazards to residents and workers in the project area. Temporary potential safety hazards associated with construction activities and mining operations would be considered a **significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more individual Implementation Permits expected to be issued by the City. According to the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005), although the mining sites are within 2 miles of Mather Airport, they are not within the area covered by the *Mather Airport Comprehensive Land Use Plan*. Mining activities would have no effect on Mather Airport safety or operations, nor would they impair implementation of adopted County emergency response plans.

Because no development would occur under this alternative, there would be no project-related safety hazards associated with construction activities or mining operations; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

#### Mitigation Measure 3.13-5: Implement Public-Safety Features during Construction Activities and Mining Operations.

PP, HD, IM,  
NF

The following public-safety protection features shall be implemented before the approval of grading plans and building permits for all project phases, and before the issuance of future mining permits:

- ▶ Temporary fencing shall be installed around construction areas with signage indicating the presence of an active construction zone, and warning the public to keep out.
- ▶ Temporary fencing shall be installed around mining areas with signage indicating the presence of active mining operations, and warning the public to keep out.
- ▶ Mining equipment shall not be operated and mining activities shall not occur within 1,100 feet of any noise-sensitive receptor, or within 375 feet if a temporary barrier is constructed in accordance with the following specifications:
  - The barrier shall be located as close to the noise source or as close to the receptor as possible and shall break the line of sight between the source and receptor.
  - The barrier shall be constructed with three-quarter-inch Medium Density Overlay (MDO) plywood sheeting, or other acceptable material having a surface weight of 2 pounds per square foot (lb/sf) or greater, and a demonstrated Sound Transmission Class

(STC) rating of 25 or greater as defined by American Society for Testing and Materials (ASTM) Test Method E90.

- Weather- and abuse-resistant material shall be used for a temporary acoustical curtain. The material shall exhibit superior hanging and tear strength during construction with a surface weight of at least 1 lb/sf. The material shall have a minimum breaking strength of 120 pounds per inch (lb/in) per Federal Test Method Standard (FTMS) 191 A-M5102 and minimum tear strength of 30 lb/in per ASTM Test Method D117. Based on the same test procedures, the absorptive material facing shall have a minimum breaking strength of 100 lb/in and minimum tear strength of 7 lb/in. The material shall have a STC rating of 25 or greater, based on certified sound transmission loss data taken according to ASTM Test Method E90. It shall also have a Noise Reduction Coefficient (NRC) rating of 0.70 or greater, based on certified sound absorption coefficient data according to ASTM Test Method C423.
- The mating surfaces of the barrier sides shall be installed flush with each other. Gaps between barrier units, and between the bottom edge of the barrier panels and the ground, shall be closed with material that will completely close the gaps, and be dense enough to attenuate noise.

**Timing:** Before the approval of grading plans and building permits for all project phases, before issuance of future mining permits, and during all project construction for all project phases and mining activities.

**Enforcement:** City of Rancho Cordova Public Works Department and Building and Safety Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.13-5 would reduce the significant impact of possible public-safety hazards related to construction activities and mining operations under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.13-6**

**Human Health Hazards Associated with Mosquitoborne Diseases.** *Construction workers or future residents could be exposed to an increased risk of mosquitoborne diseases.*

PP, HD, IM,  
NF

While the project site is located within the Sacramento-Yolo Mosquito and Vector Control District and subject to District regulations, the City also requires that wetland mosquito management guidelines be incorporated into the design of water retention structures, drainage ditches, swales, and the construction of mitigated wetlands to reduce the potential for mosquitoborne disease transmission. Wetland features that would be constructed under the alternatives under consideration currently do not have mosquito management guidelines.

Although the mosquito controls applied by the District are considered to be appropriate and safe for human exposure, the project could result in a new risk of adverse health effects associated with vectorborne diseases or hazards associated with vector control, because new water-related sources of mosquito breeding habitat would be created, and the project currently does not have wetland mosquito management guidelines. Therefore, implementation of the Proposed Project, Impact Minimization, High Density, or No Federal Action Alternative would have a **potentially significant, direct** impact on human health related to mosquitoborne diseases. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more individual Implementation Permits expected to be issued by the City. However, mining activities would not create new sources of mosquito breeding habitat, and the project site would continue to fall within the District’s ongoing Integrated Pest Management program, which is designed to reduce human health risks associated with mosquitoborne diseases.

Therefore, because no new sources of mosquito breeding habitat would be created, and because mosquito controls applied by the District are considered to be appropriate and safe for human exposure, this would be considered a **less than significant, direct** impact. **No indirect** impacts would occur. *[Lesser]*

**Mitigation Measure 3.13-6: Develop and Implement Site-Specific Wetland Mosquito Management Guidelines.**

PP, HD, IM, Before the start of construction activities for all project phases, the project applicant(s) shall NF develop a set of site-specific Wetland Mosquito Management Guidelines. The guidelines shall be submitted to the City for review and approval. The project applicant(s) shall implement the guidelines once they have been approved.

**Timing:** Before the start of construction activities and as specified in the guidelines for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department and Building and Safety Department.

NP No mitigation measures are required.

**Project Level (Phase 1) Impacts and Mitigation Measures**

**IMPACT  
3.13-7**

**Possible Exposure to Contaminated Soil or Groundwater.** *Construction workers or future residents would not be exposed to contaminated soil or groundwater during implementation of development Phase 1.*

PP, HD, IM, In 1997, DTSC issued a decision stating that the 1,100 acres of land encompassed by Rio del NF Oro development Phase 1 did not contain soils contaminated by either historical aerospace activities at the IRCTS or historical mining activities, and documenting that soil beneath the 1,100 acres was free of contaminants. This decision resulted in the removal of the 1,100 acres from the provisions of the DTSC ISEO for the IRCTS. Studies performed at the request of Aerojet (Borch 1995a, 1995b) found that the dredge tailings at the project site do not contain toxic levels of trace elements (such as mercury). Therefore, construction workers and future residents and employees associated with development Phase 1 would not come into contact with contaminated soil. To address DTSC concerns about the contaminated groundwater, Aerojet reserved all rights to water lying below the surface of the Phase 1 development area and granted easements to DTSC for the installation of monitoring wells, extraction wells, and pipelines to address the remediation of the contaminated groundwater. These deed restrictions prohibit uses of this groundwater for potable or irrigation-water supply wells without DTSC approval. Construction workers associated with development Phase 1 would not come into contact with contaminated groundwater because groundwater is typically approximately 125 feet below the current ground surface in the Phase 1 development area, and project-related excavation activities would not exceed depths of 15–20 feet. Therefore, there would be **no direct or indirect** impacts arising from human exposure to contaminated soil or groundwater. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Aerojet and MDC are required to address groundwater contamination underneath Phase 1 development land pursuant to DTSC and RWQCB requirements regardless of whether the project is implemented and regardless of whether mining is occurring. However, these groundwater cleanup efforts may not occur within Phase 1 land.

Because project-related construction and development would not occur under this alternative, there would be **no direct** or **indirect** impacts related to exposure of construction workers or future residents to contaminated soil or groundwater. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.13-8**

**Possible Delays in Development of Future Land Uses from Remediation Activities.** *Ongoing remediation activities could delay or limit the availability of proposed development Phase 1 land uses at or near the site of those remedial activities.*

Impacts under Phase 1 would be similar to those under the program level analysis (entire project site) for all alternatives. The Phase 1 area overlies the three groundwater operable units (WGOU, NGSAs, and SGSA) and the GET F Sprayfield OU is located next to the northeastern corner of the Phase 1 development area. The other soil OUs are located east of the Phase 1 development area and would not be directly affected by implementation of development Phase 1. Refer to Impact 3.13-2 for further discussion of this impact.

Implementation of Mitigation Measures 3.13-2a, 3.13-2b, and 3.13-2c would reduce the potentially significant impact from possible delays or interference with completion of remediation activities and development of future land uses under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.13-9**

**Possible Exposure to Hazardous Building Materials.** *Construction workers could be exposed to asbestos and/or lead-containing materials as a result of demolition of existing on-site structures during implementation of development Phase 1.*

PP, HD, IM, NF Because the land within the Phase 1 development area contains no buildings or structures, there would be no risk associated with exposure of construction workers to asbestos and/or lead-containing materials. Therefore, there would be **no direct** or **indirect** impacts. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City.

Because construction of the project would not occur under this alternative, there would be no risk associated with exposure of construction workers to asbestos and/or lead-containing materials; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.13-10**

**Use of Hazardous Materials On-Site.** *Implementation of development Phase 1 would involve the storage, use, and transport of hazardous materials at the project site during construction and operation activities.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.13-4 for further discussion of this impact.

**IMPACT  
3.13-11**

**Potential Safety Hazards from Construction Activities and Mining Operations.** *Ongoing project-related construction activities and nonproject-related mining operations could result in disruption of the surrounding residential and commercial uses and result in potential safety hazards to construction workers and residents during implementation of development Phase 1.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.13-5 for further discussion of this impact.

Implementation of Mitigation Measure 3.13-5 would reduce the significant impact of possible public-safety hazards related to construction activities and mining operations under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.13-12**

**Human Health Hazards Associated with Mosquitoborne Diseases.** *Construction workers or future residents associated with development Phase 1 could be exposed to an increased risk of mosquitoborne diseases.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.13-6 for further discussion of this impact.

Implementation of Mitigation Measure 3.13-6 would reduce the significant impact of possible public-health hazards related to mosquitoborne disease under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

## **CUMULATIVE IMPACTS**

The Rio del Oro project would involve construction, demolition, and operation on land that is known to contain contaminated soil and groundwater. However, project implementation on 2,728 acres of the 3,828-acre site cannot occur until investigation and remediation of contaminants in soil and soil vapor have satisfied the requirements of DTSC and the Central Valley RWQCB. These requirements are intended to ensure that the residual concentrations of contaminants at the conclusion of cleanup activities do not pose a risk to human health and the environment. Therefore, significant health hazards to the public would not occur on either an individual project level or a cumulative basis.

Structures within the development area for Phases 2–5 contain asbestos and lead-containing materials. However, demolition of buildings containing these substances is regulated by EPA and Cal-OSHA, and the project includes a mitigation measure requiring compliance with these regulations. Therefore, the project would not contribute to cumulatively significant hazards to the public. It is assumed that construction of the related projects would also occur in accordance with these regulations; therefore, this impact would be considered less than significant on both an individual project basis and a cumulative basis.

The Rio del Oro project and the related projects would all involve the storage, use, disposal, and transport of hazardous materials (such as asphalt, fuel, lubricants, and solvents) to varying degrees during demolition, construction, and operation. Impacts related to these activities are considered less than significant under the Rio

del Oro project because the storage, use, disposal, and transport of hazardous materials are extensively regulated by various federal, state, and local agencies, and it is assumed that those involved with the project would implement and comply with these existing hazardous-materials regulations. Therefore, the project would not contribute to cumulatively significant hazardous materials storage and transport impacts to the public. Because these laws and regulations would also apply to each related project, this impact would also be considered less than significant on a cumulative basis.

### **3.13.4 RESIDUAL SIGNIFICANT IMPACTS**

With implementation of the mitigation measures listed above, project implementation would not result in any residual significant impacts related to hazards and hazardous materials.

### 3.14 TRAFFIC AND TRANSPORTATION

This chapter presents the results of the transportation impact analysis (TIA) prepared by Fehr & Peers Transportation Consultants (Fehr & Peers) for implementation of development Phase 1 and full buildout of the Rio del Oro Specific Plan. Because of the large volume of raw data generated during traffic counts and modeling analyses conducted in support of the traffic analysis, it is not feasible to provide these data as an appendix to this draft environmental impact report/environmental impact statement (DEIR/DEIS). However, the data are available for review at the City of Rancho Cordova, 2729 Prospect Park Drive, Rancho Cordova, CA 95670.

Development of the Rio del Oro Specific Plan, also referred to as the “project,” would not be completed until the year 2030. The Rio del Oro Specific Plan area, other areas of Rancho Cordova, and cities and communities throughout Sacramento County are expected to experience significant growth over this period. Major projects have been entitled for development throughout the region, and more are expected. As projects develop, traffic will increase on local and regional roadways and freeways. As regional development proceeds, transportation system improvements will be provided through local and regional funding programs, individual project mitigation, and improvements funded by the California Department of Transportation (Caltrans).

The Sacramento region is conducting its Blueprint process to aid decision makers in understanding the effects of current planning procedures (see Section 3.1, “Land Use,” for further information regarding the Sacramento Area Council of Governments [SACOG] Blueprint). Through the Blueprint process, a preferred alternative has been adopted for the region that increases development densities in areas outside downtown Sacramento, such as Rancho Cordova, to limit sprawl, minimize dependence on the single-occupant automobile, and reduce trip lengths throughout the region. However, for the purposes of this DEIR/DEIS, current development trends in the region (outside of Rancho Cordova) have been assumed, providing a “worst-case” scenario for identifying transportation impacts in the project study area.

As part of the traffic analysis, the following preliminary analyses were conducted to provide a basis for comparison of project-related traffic impacts:

- ▶ **Existing conditions analysis.** Existing roadway operations were analyzed using existing roadway geometrics and existing volumes obtained from traffic count data.
- ▶ **Baseline conditions analysis.** The existing roadway conditions described above (“existing conditions”) were analyzed with the addition of traffic expected from projects that City of Rancho Cordova (City) staff members have identified as having already received tentative map approval (such as the Villages of Zinfandel), as well as traffic generated by development of up to 6,500 units in the SunRidge Specific Plan area. This “baseline conditions” analysis incorporates roadway improvements that are currently under construction or are consistent with approved projects. The use of these baseline conditions for the assessment of project-related impacts is appropriate and conservative under the California Environmental Quality Act (CEQA) because it does not include hypothetical, speculative, or unapproved projects. It does include approved projects that have obtained necessary discretionary approvals, but have not yet begun to generate the traffic that is the foreseeable consequence of existing discretionary approvals.
- ▶ **Cumulative conditions analysis.** Roadway conditions that are projected to occur in the year 2030, when full buildout of the Rio del Oro Specific Plan area is expected, were also analyzed. This planning horizon incorporates roadway improvement projects associated with assumed development projects in the area, as identified by the City; Tier I projects identified in the SACOG *Metropolitan Transportation Plan for 2025* (MTP 2025) that are outside the city limits; and additional improvements identified by the City that would be required pursuant to the City’s capital improvement program (CIP).

Although there is a reasonable expectation that future roadway system improvements would be provided as planned, these improvements remain largely dependent on fees generated by the development that would affect the roadways. The likelihood that planned developments would proceed can be forecasted but not predicted with

certainty. The same is true of the timing of these developments. Consequently, this traffic analysis evaluates development impacts under the scenarios described below.

- ▶ **Baseline Plus Phase 1.** This scenario assumes the baseline conditions described above with the addition of traffic that would be generated at buildout of development Phase 1 of the project, which is projected to occur in the year 2014.
- ▶ **Baseline Plus Full Project Buildout.** This scenario assumes the baseline conditions described above with the addition of traffic that would be generated at full buildout of the Rio del Oro Specific Plan area, which is projected to occur in the year 2030.
- ▶ **Cumulative Plus Full Project Buildout.** This scenario assumes an improved roadway system and increased traffic, based on projected regional and local growth, regional and local traffic plans, traffic fee programs, and known commitments to improve the traffic network (the “cumulative conditions” analysis described above). This improved roadway condition is evaluated for the year 2030, which is the year when full buildout of the Rio del Oro Specific Plan area is expected to be completed.

These three conditions represent the reasonably foreseeable range of possible roadway scenarios that could be in place as the project develops over time.

Several additional traffic scenarios, described below, were evaluated for informational purposes only and were intended to aid in the financing plan for the project (if approved). Because these scenarios do not include an analysis of project impacts, they are provided as Appendix I to this DEIR/DEIS.

- ▶ **2014 with Phase 1.** This scenario incorporates a near-term planning horizon that consists of traffic volumes from expected development through the year 2014 plus traffic from development Phase 1 of the project. The scenario incorporates roadway improvements consistent with Tier I projects identified for completion in the MTP 2025 by year 2014, with minor modifications from County of Sacramento (County) staff members.
- ▶ **2014 with Specific Plan Buildout.** This scenario incorporates a second, near-term planning horizon that consists of traffic volumes from expected development over the next 10 years plus full buildout of the Rio del Oro Specific Plan.
- ▶ **Additional cumulative-analysis scenarios corresponding to MTP 2025 Tier I roadway improvement projects only, both inside and outside the city limits.** These scenarios were used to identify roadway operations that would occur only if the City’s proposed CIP were not implemented; they are not part of this DEIR/DEIS analysis.

### 3.14.1 AFFECTED ENVIRONMENT

The site location and surrounding roadway network are shown in Exhibit 3.14-1. The project site is in the City of Rancho Cordova, and is generally bounded by White Rock Road to the north, Douglas Road to the south, and Sunrise Boulevard to the west. Grant Line Road is approximately 0.75 mile to the east. The Phase 1 development area is the western 1,100-acre portion of the project site located along Rancho Cordova Parkway. Exhibit 2-12 in Chapter 2, “Alternatives,” shows the project site (including the Phase 1 development area) and the project site roadway network.

Detailed traffic analyses were performed for the intersections, roadway segments, freeway facilities, and interchanges shown in Table 3.14-1.



**Table 3.14-1  
Locations of Detailed Traffic Analyses**

Intersections	
1. SR 16/Excelsior Road	28. Hazel Avenue/Gold Country Boulevard
2. SR 16/Eagles Nest Road	29. Sunrise Boulevard/Kiefer Boulevard—2014 and cumulative scenarios only
3. SR 16/Sunrise Boulevard	30. Eagles Nest Road/Kiefer Boulevard—2014 and cumulative scenarios only
4. SR 16/Grant Line Road	31. Sunrise Boulevard/International Drive—2014 and cumulative scenarios only
5. Florin Road/Sunrise Boulevard	32. Rancho Cordova Parkway/White Rock Road—cumulative scenario only
6. Grant Line Road/Sunrise Boulevard	33. Rancho Cordova Parkway/U.S. 50 eastbound ramps—cumulative scenario only
7. Grant Line Road/Kiefer Boulevard	34. Rancho Cordova Parkway/U.S. 50 westbound ramps—cumulative scenario only
8. Douglas Road/Grant Line Road	35. Douglas Road/Jaeger Road—cumulative scenario only
9. Douglas Road/Sunrise Boulevard	36. Douglas Road/Americanos Boulevard—cumulative scenario only
10. Mather Field Road/Folsom Boulevard	37. Chrysanthy Boulevard/Sunrise Boulevard—cumulative scenario only
11. Mather Field Road/U.S. 50 westbound ramps	38. Chrysanthy Boulevard/Jaeger Road—cumulative scenario only
12. Mather Field Road/U.S. 50 eastbound ramps	39. Chrysanthy Boulevard/Americanos Boulevard—cumulative scenario only
13. Mather Field Road/International Drive	40. Kiefer Boulevard/Jaeger Road—cumulative scenario only
14. Zinfandel Drive/International Drive	41. White Rock Road/Americanos Boulevard—cumulative scenario only
15. Zinfandel Drive/White Rock Road	
16. Zinfandel Drive/U.S. 50 eastbound ramps	
17. Zinfandel Drive/U.S. 50 westbound ramps	
18. Sunrise Boulevard/White Rock Road	
19. Sunrise Boulevard/Folsom Boulevard	
20. Sunrise Boulevard/U.S. 50 eastbound ramps	
21. Sunrise Boulevard/U.S. 50 westbound ramps	
22. Sunrise Boulevard/Zinfandel Drive	
23. Hazel Avenue/Folsom Boulevard	
24. Hazel Avenue/U.S. 50 eastbound ramps	
25. Hazel Avenue/U.S. 50 westbound ramps	
26. White Rock Road/Grant Line Road	
27. Kilgore Road/White Rock Road	
Roadways	
1. SR 16—Excelsior Road to Eagles Nest Road	15. White Rock Road—Sunrise Boulevard to Grant Line Road
2. SR 16—Sunrise Boulevard to Grant Line Road	16. Folsom Boulevard—Zinfandel Drive to Sunrise Boulevard
3. Kiefer Boulevard—Grant Line Road to SR 16	17. Folsom Boulevard—Sunrise Boulevard to Hazel Avenue
4. Mather Boulevard—Femoyer Street to Douglas Road	18. Mather Field Road—Folsom Boulevard to U.S. 50 westbound ramps
5. Douglas Road—Mather Boulevard to Sunrise Boulevard	19. Mather Field Road—U.S. 50 eastbound ramps to International Drive
6. Douglas Road—Sunrise Boulevard to Grant Line Road	20. Pyramid Boulevard—Sunrise Boulevard to Jaeger Road—cumulative scenario only
7. International Drive—South White Rock Road to Zinfandel Drive	21. Pyramid Boulevard—Jaeger Road to Americanos Boulevard—cumulative scenario only
8. International Drive—Zinfandel Drive to Kilgore Road	22. Kiefer Boulevard—Eagles Nest Road to Sunrise Boulevard—cumulative scenario only
9. White Rock Road—Zinfandel Drive to Sunrise Boulevard	23. Kiefer Boulevard—Sunrise Boulevard to Jaeger Road—cumulative scenario only
10. Zinfandel Drive—Folsom Boulevard to U.S. 50 westbound ramps	24. Eagles Nest Road—Mather Boulevard to Douglas Road—cumulative scenario only
11. Zinfandel Drive—U.S. 50 eastbound ramps to White Rock Road	
12. Zinfandel Drive—White Rock Road to International Drive	
13. Sunrise Boulevard—Gold Country Boulevard to Coloma Road	
14. Sunrise Boulevard—Coloma Road to U.S. 50 westbound ramps	

**Table 3.14-1  
Locations of Detailed Traffic Analyses**

Roadways (Continued)	
25. Sunrise Boulevard—U.S. 50 eastbound ramps to Folsom Boulevard	39. Eagles Nest Road—Douglas Road to Kiefer Boulevard—cumulative scenario only
26. Sunrise Boulevard—Folsom Boulevard to White Rock Road	40. Eagles Nest Road—Kiefer Boulevard to SR 16—cumulative scenario only
27. Sunrise Boulevard—White Rock Road to Douglas Road	41. Sunrise Boulevard—Douglas Road to Pyramid Boulevard—cumulative scenario only
28. Sunrise Boulevard—Douglas Road to SR 16	42. Sunrise Boulevard—Pyramid Boulevard to Kiefer Boulevard—cumulative scenario only
29. Sunrise Boulevard—SR 16 to Grant Line Road	43. Sunrise Boulevard—Kiefer Boulevard to SR 16—cumulative scenario only
30. Hazel Avenue—U.S. 50 westbound ramps to Winding Way	44. Rancho Cordova Parkway—U.S. 50 to White Rock Road—cumulative scenario only
31. Grant Line Road—White Rock Road to Douglas Road	45. Rancho Cordova Parkway—White Rock Road to Douglas Road—cumulative scenario only
32. Grant Line Road—Douglas Road to SR 16	46. Jaeger Road—Douglas Road to Pyramid Boulevard—cumulative scenario only
33. Grant Line Road—SR 16 to Sunrise Boulevard	47. Jaeger Road—Pyramid Boulevard to Kiefer Boulevard—cumulative scenario only
34. Douglas Road—Sunrise Boulevard to Jaeger Road—baseline, 2014, and cumulative scenarios only	48. Americanos Boulevard—White Rock Road to Douglas Road
35. Douglas Road—Americanos Boulevard to Grant Line Road—baseline, 2014, and cumulative scenarios only	49. Americanos Boulevard—Douglas Road to Pyramid Boulevard
36. Sunrise Boulevard—Douglas Road to Kiefer Boulevard—baseline, 2014, and cumulative scenarios only	
37. Sunrise Boulevard—Kiefer Boulevard to SR 16—baseline, 2014, and cumulative scenarios only	
38. Douglas Road—Jaeger Road to Americanos Boulevard—cumulative scenario only	
Freeway Segments	
1. U.S. 50—Mather Field Road to Zinfandel Drive	
2. U.S. 50—Zinfandel Drive to Sunrise Boulevard	
3. U.S. 50—Sunrise Boulevard to Hazel Avenue	
4. U.S. 50—Hazel Avenue to Folsom Boulevard	
5. U.S. 50—Sunrise Boulevard to Rancho Cordova Parkway—2014 and cumulative scenarios	
6. U.S. 50—Rancho Cordova Parkway to Hazel Avenue—2014 and cumulative scenarios	
Interchanges	
1. Mather Field Road interchange at U.S. 50	
2. Zinfandel Drive interchange at U.S. 50	
3. Sunrise Boulevard interchange at U.S. 50	
4. Hazel Avenue interchange at U.S. 50	
5. Rancho Cordova Parkway interchange at U.S. 50—2014 and cumulative scenarios	
Notes: SR = State Route; U.S. 50 = U.S. Highway 50	
Source: Data provided by Fehr & Peers in 2005	

## EXISTING ROADWAY NETWORK

Exhibit 3.14-1 shows the surface roadways in the vicinity of the project site and the number of lanes on each roadway. A brief description of each of the key roadways in the project study area is provided below.

### U.S. Highway 50

U.S. Highway 50 (U.S. 50) extends eastward from downtown Sacramento into El Dorado County. U.S. 50 has four lanes in each direction from west of Bradshaw Road to Sunrise Boulevard. From Sunrise Boulevard to Hazel Avenue, it has three lanes in each direction plus a high-occupancy vehicle (HOV) lane. East of Hazel Avenue, U.S. 50 has three lanes, including HOV lanes, in each direction.

## **Sunrise Boulevard**

Sunrise Boulevard is a major north-south secondary road that connects Grant Line Road to the city of Roseville. It has two lanes between Grant Line Road and Douglas Road, four lanes between Douglas Road and White Rock Road, and six lanes north of White Rock Road. The U.S. 50/Sunrise Boulevard interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants. In the vicinity of the project site, the Circulation Element/Plan of the *Rancho Cordova General Plan* (City General Plan) designates this roadway as a six-lane major road.

## **White Rock Road**

White Rock Road extends from International Drive to El Dorado County. It is a two-lane local road between International Drive and Zinfandel Drive, a six-lane secondary road between Zinfandel Drive and Sunrise Boulevard, and a two-lane roadway east of Sunrise Boulevard. In the vicinity of the project site, the Circulation Element/Plan of the City General Plan designates this roadway as a six-lane expressway.

## **Jackson Highway (State Route 16)**

Jackson Highway, also known as State Route (SR) 16, is a two-lane highway that extends from Folsom Boulevard east of Howe Avenue into Amador County. In the vicinity of the project site, the Circulation Element/Plan of the City General Plan designates this roadway as a six-lane expressway.

## **Mather Field Road**

Mather Field Road extends from the Mather Reuse Area to Folsom Boulevard. It has six lanes between International Drive and U.S. 50, and four lanes between U.S. 50 and Folsom Boulevard. The U.S. 50/Mather Field Road interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

## **Douglas Road**

Douglas Road is a two-lane roadway that extends from Mather Boulevard in the Mather Reuse Area to Grant Line Road. In the vicinity of the project site, the Circulation Element/Plan of the City General Plan designates this roadway as a six-lane major road.

## **Grant Line Road**

Grant Line Road is a two-lane roadway that extends from SR 99 to White Rock Road through the southeastern portion of Sacramento County. In the vicinity of the project site, the Circulation Element/Plan of the City General Plan designates this roadway as a six-lane expressway.

## **Zinfandel Drive**

Zinfandel Drive is a four-lane secondary road from International Drive to Sunrise Boulevard. The U.S. 50/Zinfandel Drive interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

## **Hazel Avenue**

Hazel Avenue is four-lane north-south secondary road through Sacramento County and into Placer County, where it becomes Sierra College Boulevard. The U.S. 50/Hazel Avenue interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

Intersection lane configurations and traffic control devices for the existing roadway network were obtained during a field visit to the project study area in spring 2004. These lane configurations are shown in Exhibit 3.14-2.

## **EXISTING TRAFFIC VOLUMES**

Fehr & Peers conducted traffic counts during the second quarter of 2003 and the first quarter of 2004, then again in November 2005, to determine average daily traffic (ADT) and a.m. and p.m. peak-period traffic volumes in the project study area. No changes in the existing conditions had occurred during the time between the two sets of traffic counts. Traffic counts were collected for all roadway segments and intersections in the project study area. The existing intersection volumes are shown in Exhibit 3.14-2. ADT volumes for existing roadways are presented in Exhibit 3.14-3.

## **EXISTING TRANSIT SERVICE**

Sacramento Regional Transit (RT) operates bus and light-rail transit (LRT) service in Sacramento County. The existing transit services in the vicinity of the project site are described below and are shown in Exhibit 3.14-4.

### **Fixed-Route Bus Service**

Fixed-route bus service is provided northwest of the project site. Routes 73 and 74 provide service along White Rock Road. Route 109 is operated along U.S. 50 during weekday peak periods only. The following describes these individual routes in greater detail.

- ▶ **Route 73** provides service between the Mather Field/Mills light-rail station and the Sunrise Boulevard light-rail station. Weekday service is provided between 6:05 a.m. and 7:45 p.m. on 60-minute headways. (A “headway” is the amount of time between buses. For example, if a bus on the same route arrives at a given stop every 60 minutes, it is operating on 60-minute headways.) Saturday service is provided between 7:30 a.m. and 6:20 p.m. on 60-minute headways. No Sunday or holiday service is provided.
- ▶ **Route 74** provides fixed-route service between the Mather Field/Mills light-rail Station and the Sunrise Boulevard light-rail station on weekdays only. The route operates between 5:50 a.m. and 8:20 p.m. on 60-minute headways. Saturday service is provided between 7:10 a.m. and 7:10 p.m. on 60-minute headways. No Sunday or holiday service is provided.
- ▶ **Route 109 (Hazel Express)** is an express bus route between Orangevale and downtown Sacramento. During the morning commute period, the route operates from 6:25 a.m. to 8 a.m. on approximately 30-minute headways in the westbound direction only. During the evening commute period, the route operates from 4:35 p.m. to 6:20 p.m. on 45- to 50-minute headways in the eastbound direction only.

### **Light-Rail Transit Service**

LRT service is provided from downtown Sacramento along the U.S. 50 corridor to the Sunrise Boulevard light-rail station, which has a 489-space park-and-ride lot. An LRT extension eastward to the city of Folsom opened in late 2005.

## **EXISTING BICYCLE AND PEDESTRIAN SYSTEM**

Bicycle and pedestrian facilities are limited near the project site. A Class I off-street bike path parallels Sunrise Boulevard from White Rock Road south to Grant Line Road along the Folsom South Canal. Sidewalks have been built along Sunrise Boulevard north and south of White Rock Road; however, there are no sidewalks along Sunrise Boulevard south of Refinement Road.

## EXISTING TRAFFIC CONDITIONS

Existing operation of roadways, intersections, freeway facilities, and bicycle/pedestrian facilities in the project study area is discussed below.

### Study Intersections

The existing peak-hour traffic volumes, traffic control, and intersection lane configurations shown in Exhibit 3.14-2 were used to calculate levels of service (LOS) at the study intersections. Table 3.14-2 summarizes intersection LOS under existing conditions.

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		V/C <sup>1</sup> or Delay <sup>2</sup>	LOS	V/C or Delay	LOS
1. SR 16/Excelsior Road	Signalized	0.74	C	0.73	C
2. SR 16/Eagles Nest Road	Side-street stop	23	C	29	D
3. SR 16/Sunrise Boulevard	Signalized	1.01	F	0.97	E
4. SR 16/Grant Line Road	Signalized	1.00	E	1.04	F
5. Florin Road/Sunrise Boulevard	Signalized	0.44	A	0.69	B
6. Grant Line Road/Sunrise Boulevard	All-way stop	33	D	63	F
7. Grant Line Road/Kiefer Boulevard	All-way stop	10	A	10	B
8. Douglas Road/Grant Line Road	Side-street stop	13	B	14	B
9. Douglas Road/Sunrise Boulevard	Signalized	0.68	B	0.73	B
10. Mather Field Road/Folsom Boulevard	Signalized	0.71	A	0.92	E
11. Mather Field Road/U.S. 50 westbound ramps	Signalized	0.50	A	0.59	A
12. Mather Field Road/U.S. 50 eastbound ramps	Signalized	0.80	D	0.54	A
13. Mather Field Road/International Drive	Signalized	0.44	A	0.58	A
14. Zinfandel Drive/International Drive	Signalized	0.29	A	0.40	A
15. Zinfandel Drive/White Rock Road	Signalized	0.53	A	0.85	D
16. Zinfandel Drive/U.S. 50 eastbound ramps	Signalized	0.89	D	0.97	E
17. Zinfandel Drive/U.S. 50 westbound ramps	Signalized	0.44	A	0.52	A
18. Sunrise Boulevard/White Rock Road	Signalized	0.74	C	0.76	C
19. Sunrise Boulevard/Folsom Boulevard	Signalized	0.64	B	0.77	C
20. Sunrise Boulevard/U.S. 50 eastbound ramps <sup>3</sup>	Signalized	0.55	A	0.62	B
21. Sunrise Boulevard/U.S. 50 westbound ramps <sup>3</sup>	Signalized	0.54	A	0.73	C
22. Sunrise Boulevard/Zinfandel Drive	Signalized	1.03	F	1.80	F
23. Hazel Avenue/Folsom Boulevard	Signalized	0.66	B	0.78	C
24. Hazel Avenue/U.S. 50 eastbound ramps <sup>3</sup>	Signalized	0.49	A	0.64	B
25. Hazel Avenue/U.S. 50 westbound ramps <sup>3</sup>	Signalized	0.74	C	0.85	D
26. White Rock Road/Grant Line Road	Side-street stop	18	C	> 50	F
27. White Rock Road/Kilgore Road	Signalized	0.59	A	0.71	C
28. Hazel Avenue/Gold Country Boulevard	Signalized	0.89	D	0.85	D

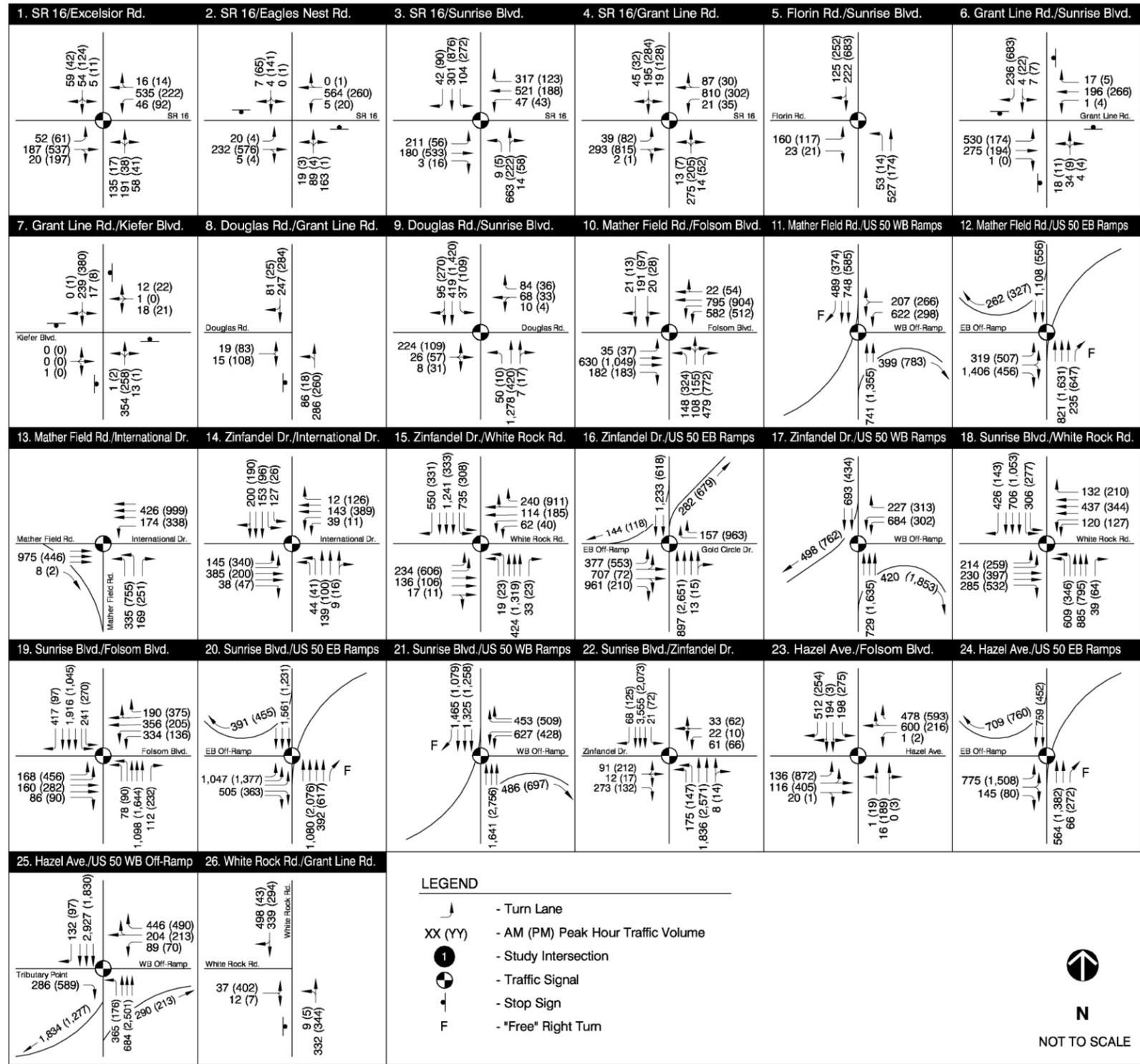
Notes: LOS = level of service; SR = State Route; U.S. 50 = U.S. Highway 50; V/C = volume-to-capacity

<sup>1</sup> V/C ratio is shown for signalized intersections.

<sup>2</sup> Worst-case delay reported for unsignalized, side-street-stop intersections; average intersection delay reported for all-way-stop intersections. Both delays are reported in seconds per vehicle.

<sup>3</sup> Operations are worse at these ramp terminal intersections than reflected in the LOS analysis. LOS is based on vehicles that get through the intersections. Because of upstream and downstream congestion, fewer cars get through the intersection, which yields a better LOS. Shaded areas indicate deficiency.

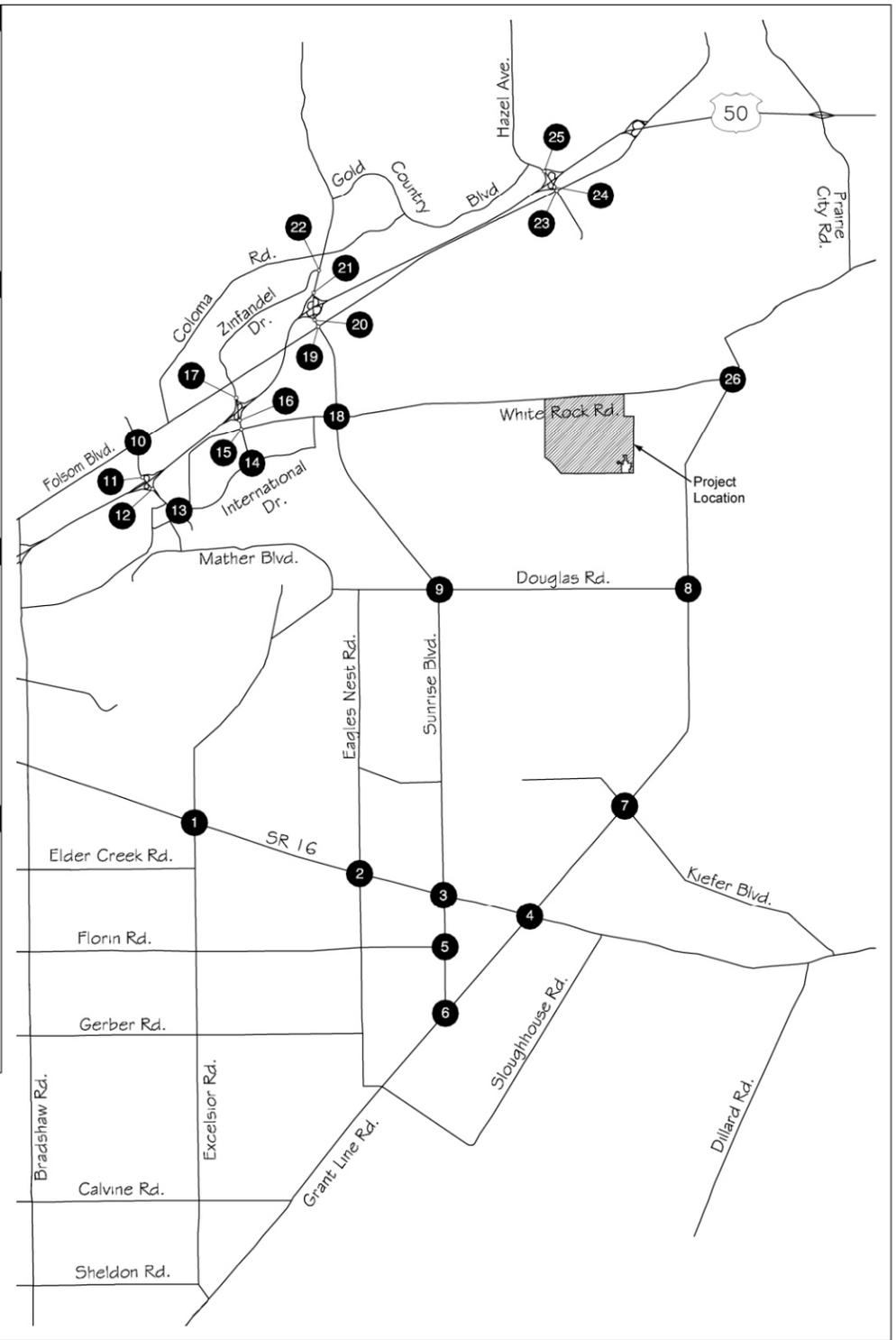
Source: Data provided by Fehr & Peers in 2005



**LEGEND**

- Turn Lane
- XX (YY) - AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F - "Free" Right Turn

N  
NOT TO SCALE

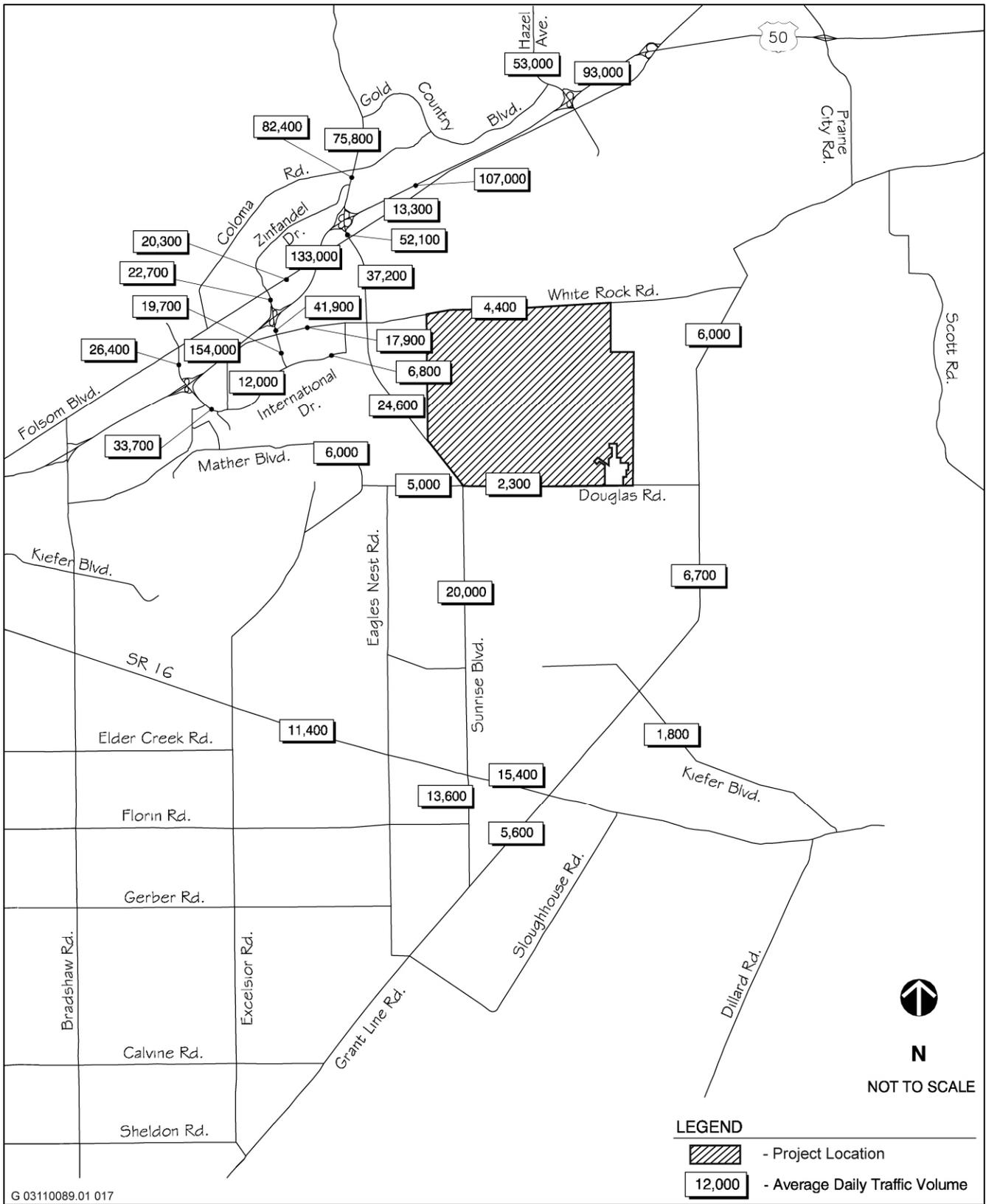


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Source: Fehr & Peers 2006

Peak-Hour Traffic Volumes, Lane Configurations, and Traffic Control-Existing Conditions

EXHIBIT 3.14-2



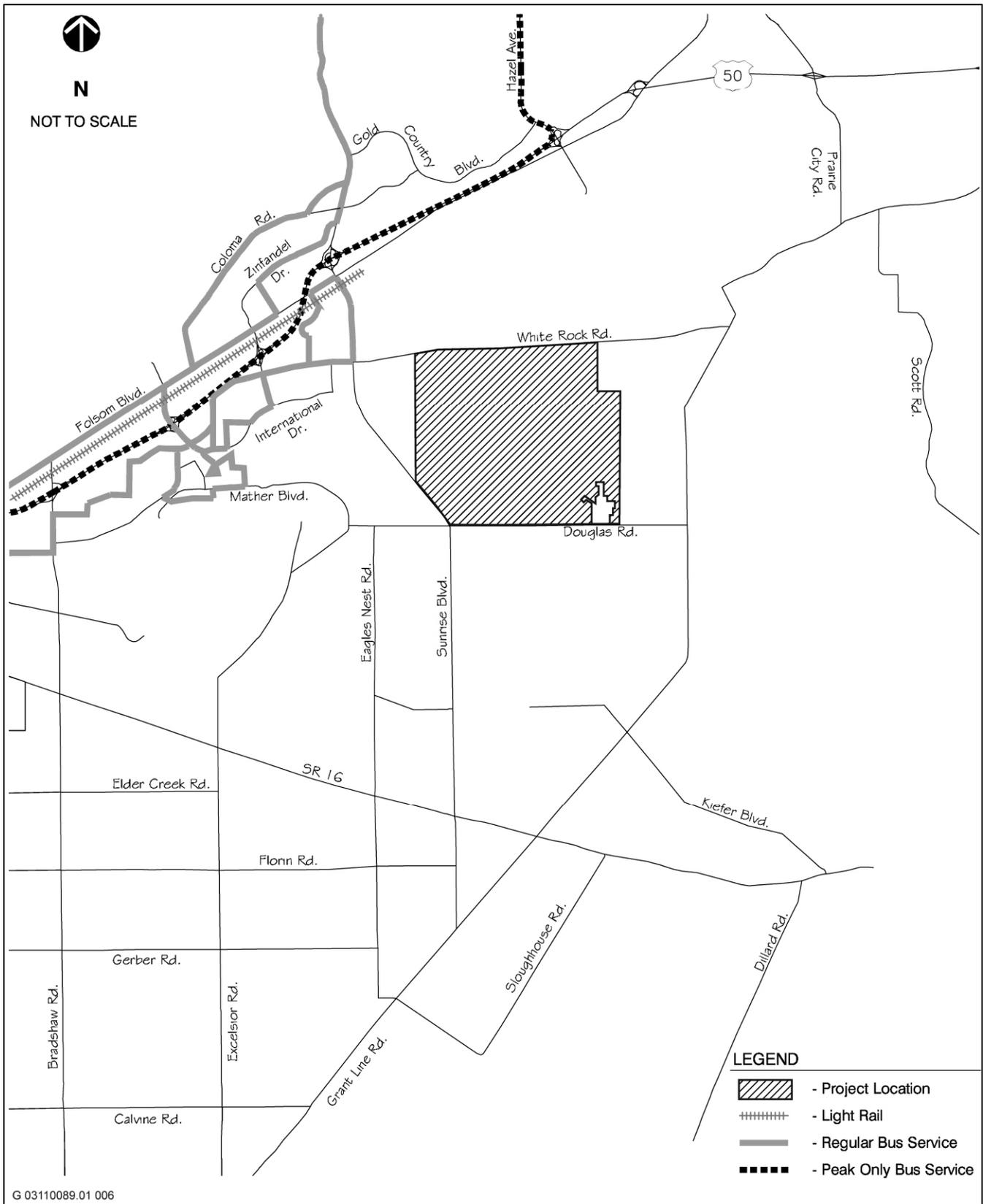
Source: Fehr & Peers 2006

## Average Daily Traffic Volumes-Existing Conditions

EXHIBIT 3.14-3

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 P 3T089.01 10/06





## Existing Transit Service

EXHIBIT 3.14-4

The following intersections operate at an unacceptable LOS E or LOS F during both the a.m. and p.m. peak traffic hours:

- ▶ SR 16/Sunrise Boulevard
- ▶ SR 16/Grant Line Road
- ▶ Sunrise Boulevard/Zinfandel Drive

The following intersections operate at an unacceptable LOS E or LOS F during only the p.m. peak traffic hour:

- ▶ Grant Line Road/Sunrise Boulevard
- ▶ Mather Field Road/Folsom Boulevard
- ▶ Zinfandel Drive/U.S. 50 eastbound ramps
- ▶ White Rock Road/Grant Line Road

### **Roadway Segments**

Table 3.14-3 presents the existing conditions analysis for roadway segments in the project study area.

The following roadway segments operate at an unacceptable LOS E or LOS F during only the p.m. peak traffic hour:

- ▶ Sunrise Boulevard between Gold Country Boulevard and Coloma Road
- ▶ Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps
- ▶ Sunrise Boulevard between the U.S. 50 eastbound ramps and Folsom Boulevard
- ▶ Sunrise Boulevard between Douglas Road and SR 16
- ▶ Hazel Avenue between Winding Way and the U.S. 50 westbound ramps
- ▶ U.S. 50 between Hazel Avenue and Folsom Boulevard

### **Analyses of Freeway-Ramp Merge, Diverge, and Weave Maneuvers**

The results of the analyses of freeway-ramp merge, diverge, and weave maneuvers are summarized in Table 3.14-4.

The merge, diverge, and weave maneuvers for the following on- and off-ramps are operating at LOS F, where demand exceeds capacity based on *Highway Capacity Manual* (HCM) methodology:

- ▶ Eastbound U.S. 50
  - Mather Field Road direct off-ramp—a.m. peak hour only
- ▶ Westbound U.S. 50
  - Hazel Avenue direct off-ramp—a.m. peak hour only
  - Zinfandel Drive direct on-ramp—a.m. and p.m. peak hours
  - Mather Field direct on-ramp—a.m. and p.m. peak hours

Caltrans is currently preparing documentation for the U.S. Highway 50 HOV Lane Project Plus Community Enhancement Project. This project proposes to add HOV lanes (one lane eastbound and one lane westbound) between Sunrise Boulevard and downtown Sacramento, and to develop strategies and projects to improve the street system adjacent to U.S. 50. The Caltrans District 3 project Web site is located at <http://www.dot.ca.gov/dist3/projects/Sac50HOV/>.

**Table 3.14-3  
Roadway Levels of Service—Existing Conditions**

Roadway Segment	Existing Conditions			
	Lanes	Volume	V/C	LOS
1. SR 16—Excelsior Road to Eagles Nest Road	2	11,400	0.63	B
2. SR 16—Sunrise Boulevard to Grant Line Road	2	15,400	0.86	D
3. Kiefer Boulevard—Grant Line Road to north of SR 161	2	1,800	0.09	B
4. Mather Boulevard—Femoyer Street to Douglas Road	2	6,000	0.33	A
5. Douglas Road—Mather Boulevard to Sunrise Boulevard	2	5,000	0.28	A
6. Douglas Road—Sunrise Boulevard to Grant Line Road	2	2,300	0.13	A
7. International Drive—South White Rock Road to Zinfandel Drive	4	12,000	0.33	A
8. International Drive—Zinfandel Drive to Kilgore Road	4	6,800	0.19	A
9. White Rock Road—Zinfandel Drive to Sunrise Boulevard	6	17,900	0.33	A
10. White Rock Road—Sunrise Boulevard to Grant Line Road	2	4,400	0.24	A
11. Folsom Boulevard—Zinfandel Drive to Sunrise Boulevard	4	20,300	0.56	A
12. Folsom Boulevard—Sunrise Boulevard to Hazel Avenue	2	13,300	0.74	C
13. Mather Field Road—Folsom Boulevard to U.S. 50 westbound ramps	4	26,400	0.73	C
14. Mather Field Road—U.S. 50 eastbound ramps to International Drive	6	33,700	0.62	B
15. Zinfandel Drive—Folsom Boulevard to U.S. 50 westbound ramps	4	22,700	0.63	B
16. Zinfandel Drive—U.S. 50 eastbound ramps to White Rock Road	6	41,900	0.78	C
17. Zinfandel Drive—White Rock Road to International Drive	6	19,700	0.36	A
18. Sunrise Boulevard—Gold Country Boulevard to Coloma Road	6	75,800	1.40	F
19. Sunrise Boulevard—Coloma Road to U.S. 50 westbound ramps	6	82,400	1.53	F
20. Sunrise Boulevard—U.S. 50 eastbound ramps to Folsom Boulevard	6	52,100	0.96	E
21. Sunrise Boulevard—Folsom Boulevard to White Rock Road	6	37,200	0.69	B
22. Sunrise Boulevard—White Rock Road to Douglas Road	4	24,600	0.68	B
23. Sunrise Boulevard—Douglas Road to SR 16	2	200,003	1.00	E
24. Sunrise Boulevard—SR 16 to Grant Line Road	2	13,600	0.76	C
25. Hazel Avenue—Winding Way to U.S. 50 westbound ramps <sup>2</sup>	4	53,000	1.33	F
26. Grant Line Road—White Rock Road to Douglas Road	2	6,000	0.33	A
27. Grant Line Road—Douglas Road to SR 16	2	6,700	0.37	A
28. Grant Line Road—SR 16 to Sunrise Boulevard	2	5,600	0.31	A
29. U.S. 50—Mather Field Road to Zinfandel Drive	8	154,000	0.96	E
30. U.S. 50—Zinfandel Drive to Sunrise Boulevard	8	133,000	0.83	D
31. U.S. 50—Sunrise Boulevard to Hazel Avenue	6	107,000	0.89	D
32. U.S. 50—Hazel Avenue to Folsom Boulevard	4	93,000	1.16	F

Notes: LOS = level of service; SR = State Route; U.S. 50 = U.S. Highway 50; V/C = volume-to-capacity

<sup>1</sup> Roadway segment is currently not a through roadway.

<sup>2</sup> Roadway segment assumed to have high access control.

<sup>3</sup> Roadway segment operates at capacity.

Shaded areas indicate deficiency.

Source: Data provided by Fehr & Peers in 2005

**Table 3.14-4  
Levels of Service for Freeway-Ramp Merge, Diverge, and Weave Maneuvers—Existing Conditions**

Ramp	Merge, Diverge, or Weave Maneuvers	A.M. Peak		P.M. Peak	
		Density <sup>1</sup>	LOS <sup>2</sup>	Density <sup>1</sup>	LOS <sup>3</sup>
<b>Eastbound U.S. 50</b>					
Mather Field Road direct off-ramp	Diverge	45	F	39	E
Mather Field Road loop on-ramp	Merge	23	C	23	C
Mather Field Road direct on-ramp	Merge	22	C	22	C
Zinfandel Drive direct off-ramp	Diverge	23	C	15	B
Zinfandel Drive loop on-ramp	Merge	20	B	25	C
Zinfandel Drive direct on-ramp	Merge	20	B	24	C
Sunrise Boulevard direct off-ramp	Diverge	22	C	31	D
Sunrise Boulevard loop/direct on-ramp	Merge	27	C	36	E
Hazel Avenue direct off-ramp	Diverge	15	B	23	C
Hazel Avenue loop/direct on-ramp	Weave	NA	D	NA	E
Aerojet direct off-ramp					
<b>Westbound U.S. 50</b>					
Hazel Avenue direct off-ramp	Diverge	43	F	37	E
Hazel Avenue loop on-ramp	Merge	37	E	30	D
Sunrise Boulevard direct off-ramp	Diverge	14	B	31	D
Zinfandel Drive direct off-ramp	Diverge	37	E	29	D
Zinfandel Drive loop on-ramp	Merge	29	D	28	C
Zinfandel Drive direct on-ramp	Merge	36	F	37	F
Mather Field Road direct off-ramp	Diverge	36	E	37	E
Mather Field Road loop on-ramp	Merge	28	D	32	D
Mather Field Road direct on-ramp	Merge	36	F	43	F
Notes: LOS = level of service; NA = not applicable; U.S. 50 = U.S. Highway 50					
<sup>1</sup> Density in passenger cars per mile per lane for merge/diverge analysis only.					
<sup>2</sup> LOS computed using Highway Capacity Software (HCS) 2000 software for the merge/diverge analysis consistent with HCM 2000 methodologies. Weave analysis evaluated using the Leisch Method for Weaving Analysis.					
Shaded areas indicate deficiency where calculation indicates that demand exceeds capacity.					
Source: Data provided by Fehr & Peers in 2005					

### 3.14.2 REGULATORY FRAMEWORK

#### FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

There are no federal plans, policies, regulations, or laws related to traffic and transportation that apply to the project or alternatives under consideration.

## **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

Caltrans policies are applicable to the project and alternatives under consideration and are summarized in Caltrans' *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2002). These guidelines identify circumstances under which Caltrans believes that a traffic impact study would be required, information that Caltrans believes should be included in the study, analysis scenarios, and guidance on acceptable analysis methodologies.

In addition to these policies, Caltrans prepares a Transportation Concept Report (TCR) for each of its facilities in the area. A TCR is a long-term planning document that each Caltrans district prepares for every state highway or portion thereof in its jurisdiction. This document usually represents the first step in Caltrans' long-range corridor planning process. The purpose of a TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period. These are indicated in the "route concept." In addition to the 20-year route concept level, the TCR includes an "ultimate concept," which is the ultimate goal for the route beyond the 20-year planning horizon. Ultimate concepts must be used cautiously, however, because unforeseen changes in land use and other variables make forecasting beyond 20 years difficult.

SR 16 in the project study area has a route concept level of LOS E. The ultimate concept for SR 16 is a four-lane facility with continuous left-turn lane (Caltrans 2004a). U.S. 50 in the project study area has a route concept level of LOS F. The ultimate concept for U.S. 50 is a 10- to 12-lane freeway between Sunrise Boulevard and SR 99 and an eight-lane freeway with HOV lanes east of Sunrise Boulevard. (Caltrans 1998.) As described previously in this section, Caltrans is currently conducting a study to add HOV lanes west of Sunrise Boulevard.

The *County of Sacramento Traffic Impact Analysis Guidelines* (County Guidelines) (County of Sacramento 2004), described in detail later in this section, incorporate and are consistent with Caltrans' requirements. Therefore, the County Guidelines are used for identifying impacts associated with project-generated traffic, which were adopted by the City of Rancho Cordova upon incorporation.

## **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

### **Metropolitan Transportation Plan for 2025**

The MTP 2025 (SACOG 2002) is a long-range planning document for identifying and programming roadway improvements throughout the Sacramento region. The MTP 2025 has a history of being able to fund and deliver identified Tier I projects through state and local funding.

### **Rancho Cordova General Plan**

Goals and policies of the City General Plan relating to traffic and transportation that the City has found to be applicable to the project are provided in Appendix F.

Because the City formally adopted the County's traffic-impact study guidelines upon incorporation, plans and policies from the County Guidelines (County of Sacramento 2004) were used in this analysis, except where the Circulation Element/Plan of the City General Plan (City of Rancho Cordova 2005a, 2005b) supersedes County thresholds and requirements.

### **Measure A**

Measure A is a half-cent sales tax that was approved by voters to implement transportation improvements in the Sacramento region. Some Measure A funding has been identified to fund specific roadway improvements in the project study area.

## 2010 Sacramento City/County Bikeway Master Plan

The *2010 Sacramento City/County Bikeway Master Plan* (County of Sacramento 1992) identifies existing and planned bicycle routes through and near the planning area. The only existing facility is an off-street path along the Folsom South Canal west of Sunrise Boulevard, connecting Hazel Avenue north of U.S. 50 with Grant Line Road. On-street bike lanes are planned on Sunrise Boulevard, Grant Line Road, Jackson Highway (SR 16) (just past Grant Line Road), Kiefer Boulevard west of Sunrise Boulevard, Douglas Road west of Sunrise Boulevard, and White Rock Road.

The master plan also contains design, safety, and traffic control standards for use in constructing and/or upgrading facilities.

The Circulation Element/Plan of the City General Plan also identifies bicycle facilities within and around the project site.

### Transit Master Plan

Sacramento RT's 20-year master plan for transit facilities includes planned feeder bus service for Sunrise Boulevard, Mather Boulevard, and Zinfandel Drive. These bus lines are intended to support light-rail service along the Folsom Boulevard/U.S. 50 corridor, which currently extends as far east as Sunrise Boulevard. Light-rail service has recently been extended to the city of Folsom and includes a stop at Hazel Avenue.

The City, as part of the Circulation Element/Plan of the City General Plan, has developed a transit system map that identifies corridors for potential transit routes, bus rapid transit (BRT), enhanced transit corridors, and future light-rail stations.

### Development Financing Plans

The County has implemented several financing plans for implementing roadway improvements with specific plan developments in the area. The following financing plans are in place and have identified funding for improvements in the project study area:

- ▶ **Villages of Zinfandel Public Facilities Financing Plan**—financing plan for development within the Villages of Zinfandel Specific Plan area, originally within County boundaries, now within City boundaries
- ▶ **SunRidge Public Facilities Financing Plan**—financing plan for development within the SunRidge Specific Plan area, originally within County boundaries, now within City boundaries
- ▶ **Mather Field Public Facilities Financing Plan**—financing plan for development within the Mather Field Specific Plan area in Sacramento County
- ▶ **North Vineyard Station Public Facilities Financing Plan**—financing plan for development within the North Vineyard Station Specific Plan area in Sacramento County
- ▶ **Vineyard Springs Comprehensive Plan Public Facilities Financing Plan**—financing plan for development within the Vineyard Springs Comprehensive Plan area in Sacramento County

### City of Rancho Cordova Capital Improvement Program

The City has been operating under a 5-year CIP (2005–2010) that includes several roadway facilities in the project study area, including improvements to Douglas Road, Jaeger Road, Kiefer Boulevard, Sunrise Boulevard, and SR 16. Funding sources associated with the current CIP include development fees, financing districts, Measure A sales taxes, and state and federal funding sources. The CIP has been expanded and now includes updated development fees and additional roadway improvements identified in the Circulation Element/Plan of the

City General Plan. The City's CIP consists of identification of planned roadway improvements within Rancho Cordova, cost estimates of identified roadway improvements, and a nexus study to identify fair-share contributions of new development to identified roadway improvements. The City's CIP is assumed to be fully funded and incorporates the Villages of Zinfandel and SunRidge CIP financing documents. If the CIP is not fully funded, the project applicant(s) would be required to pay their fair-share contribution to the CIP.

### **SunRidge Specific Plan**

The SunRidge Specific Plan was developed for the area just south of the project site (south of Douglas Road) and is generally bounded by Sunrise Boulevard, Douglas Road, Grant Line Road, and Kiefer Boulevard. Conditions of approval were applied to the SunRidge Specific Plan (County of Sacramento 2002) identifying development thresholds that could not occur unless specific roadway improvements in the area were under construction or completed. Of note, a condition requiring construction of the Rancho Cordova Parkway interchange (or other roadway improvements) was applied to a development threshold of 6,500 units to ease congestion levels on Sunrise Boulevard.

Because the thresholds identified in the SunRidge Specific Plan were conditions of approval, they are not directly applicable to development thresholds for the Rio del Oro Specific Plan development project. However, development of the Rio del Oro Specific Plan would increase traffic burdens on Sunrise Boulevard similar to the SunRidge Specific Plan.

The City has completed an improvement phasing study that identified the timing for potential roadway improvements (consistent with the City's CIP) to prioritize improvements to accommodate development south of U.S. 50 and east of Sunrise Boulevard. The phasing study correlated development thresholds for all development south of U.S. 50 and east of Sunrise Boulevard to roadway improvement packages consistent with the City's CIP roadway system.

### **Mobility Strategies for County Corridors (Sacramento County Mobility Study)**

The County Mobility Study (County of Sacramento and Fehr & Peers 2004) was an exercise to develop candidate strategies for 11 of the county's most congested corridors. The purposes of the study were to enhance mobility, as defined by reduced travel times and improved travel-time reliability; increase the people-moving capacity; and improve safety for all users of the transportation system. Within Rancho Cordova, the mobility study identified optional strategies to improve mobility on Sunrise Boulevard, including pedestrian and bicycle enhancements, BRT, transitway development compatibility, lane additions, and intelligent transportation systems.

The mobility study is a planning-level opportunities study. The City General Plan incorporates strategies identified in the mobility study, including certain components of the study, such as BRT. Because the mobility study is a planning-level study, this DEIR/DEIS qualitatively identifies potential incompatibilities with the study options.

## **3.14.3 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES**

### **THRESHOLDS OF SIGNIFICANCE**

#### **Roadway Facilities**

The operations of roadway facilities are described in terms of LOS. LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, freedom to maneuver, volume, and capacity. Six levels are defined, from LOS A, as the best operating conditions, to LOS F, or the worst operating conditions, as shown in Table 3.14-5. LOS E represents "at-capacity" operations. When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

**Table 3.14-5  
Level-of-Service Definitions for Intersections**

Level of Service	Type of Flow	Delay	Maneuverability
A	Free flow	Very slight or no delay. If signalized, conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	Turning movements are easily made, and nearly all drivers find freedom of operation.
B	Stable flow	Slight delay. If signalized, an occasional approach phase is fully utilized.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted in groups of vehicles.
C	Stable flow	Acceptable delay. If signalized, a few drivers arriving at the end of a phase must wait through one signal cycle.	Backups may develop behind turning vehicles. Most drivers feel somewhat restricted.
D	Approaching unstable flow	Tolerable delay. Delays may be substantial during short periods, but excessive backups do not occur.	Maneuverability is severely limited during short periods because of temporary backups.
E	Unstable flow	Intolerable delay. Delay may be great, up to several signal cycles.	There are typically long queues of vehicles waiting upstream of the intersection.
F	Forced flow	Excessive delay.	Jammed conditions. Backups from other locations restrict or prevent movement. Volumes may vary widely, depending primarily on downstream conditions.

Source: Transportation Research Board 2000

Because the project and development alternatives under consideration would cause traffic impacts on roadways that are under state, County, and City jurisdictions, this analysis was conducted using a combination of policies and guidelines. The City identifies LOS D as its minimum standard for intersection operations. The County identifies LOS E as the minimum acceptable standard for intersection operations in the project vicinity. For state-controlled facilities, thresholds presented in the State’s Route Concept Report were applied. (The concept service level for SR 16 is LOS E. The concept service level for U.S. 50 is LOS F. For this study, LOS E is applied to segments of U.S. 50 as a conservative approach for identifying impacts.).

### **Roadway Segments**

Based on the County Guidelines and the LOS policy in the Circulation Element/Plan of the City General Plan, a roadway-segment impact is considered significant if the addition of project-generated traffic under the proposed project or alternatives under consideration would cause:

- ▶ a roadway segment in Rancho Cordova or within the City’s Planning Area operating at an acceptable LOS D or better to degrade to an unacceptable LOS E or LOS F;
- ▶ a roadway segment in Sacramento County (outside the City’s Planning Area) operating at an acceptable LOS E or better to degrade to an unacceptable LOS F;
- ▶ an increase in the volume-to-capacity (V/C) ratio of 0.05 or more on a roadway segment in Rancho Cordova or Sacramento County operating an unacceptable level (LOS E or LOS F in the Rancho Cordova and the City’s Planning Area, or LOS F in Sacramento County [outside the City’s Planning Area]); or
- ▶ a significant increase in reliance on single-occupant vehicles to facilitate mobility within Rancho Cordova.

Note that the V/C ratio threshold is consistent with thresholds used in various jurisdictions within California, including but not limited to Sacramento County.

### ***Signalized Intersections***

Based on the County Guidelines and the Circulation Element/Plan of the City General Plan, a signalized-intersection impact at a study intersection is considered significant if the addition of project-generated traffic under the proposed project or alternatives under consideration would cause:

- ▶ a signalized intersection operating at an acceptable LOS D or better in Rancho Cordova or the City's Planning Area to degrade to an unacceptable LOS E or LOS F;
- ▶ a signalized intersection operating at an acceptable LOS E or better in Sacramento County (outside the City's Planning Area) to degrade to an unacceptable LOS F; or
- ▶ an increase in the V/C ratio of 0.05 or more at a signalized intersection in Rancho Cordova or Sacramento County operating at an unacceptable level (LOS E or LOS F in Rancho Cordova and the City's Planning Area, or LOS F in Sacramento County [outside the City's Planning Area]).

Note that the V/C ratio threshold is consistent with thresholds used in various jurisdictions within California, including but not limited to Sacramento County.

### ***Unsignalized Intersections***

Based on the County Guidelines and the Circulation Element/Plan of the City General Plan, an unsignalized-intersection impact at a study intersection is considered significant if the addition of project-generated traffic under the proposed project or alternatives under consideration would cause:

- ▶ an unsignalized intersection in Rancho Cordova or the City's Planning Area operating at an acceptable LOS D or better to degrade to an unacceptable LOS E or LOS F;
- ▶ an unsignalized intersection in Sacramento County (outside the City's Planning Area) operating at an acceptable LOS E or better to degrade to an unacceptable LOS F; or
- ▶ an increase of 5 seconds or more of control delay at an unsignalized intersection operating at an unacceptable level (LOS E or LOS F in Rancho Cordova and the City's Planning Area, or LOS F in Sacramento County [outside the City's Planning Area]).

Note that the control-delay threshold is consistent with thresholds used in various jurisdictions within California, including but not limited to Sacramento County.

### ***Freeway Ramp Merge, Diverge, and Weave***

Based on the County Guidelines and the Circulation Element/Plan of the City General Plan, a freeway-ramp merge/diverge/weave impact is considered significant if the addition of project-generated traffic under the proposed project or alternatives under consideration would:

- ▶ cause a facility operating at an acceptable level (based on the Route Concept Report) to deteriorate to an unacceptable level, or
- ▶ add 10 trips or more to a freeway ramp that is operating at an unacceptable level. (Volume projections for future conditions are rounded to the nearest 10. Therefore, using this threshold is consistent with the rounding of future forecasts. This threshold is consistent with other studies conducted in the Sacramento region.)

## ***Freeway Segments***

Based on the County Guidelines and the Circulation Element/Plan of the City General Plan, a freeway-segment impact is considered significant if the addition of project-generated traffic under the proposed project or alternatives under consideration would:

- ▶ cause a facility operating at an acceptable level (based on the Route Concept Report) to deteriorate to an unacceptable level, or
- ▶ add 10 trips or more to a freeway segment that is operating at an unacceptable level. (Volume projections for future conditions are rounded to the nearest 10; see “Freeway Ramp Merge, Diverge, and Weave” above.)

## **Bicycle, Pedestrian, and Transit Facilities**

Based on the County Guidelines and the Circulation Element/Plan of the City General Plan, a bicycle, pedestrian, or transit-facility impact is considered significant if the proposed project or alternatives under consideration would do any of the following:

- ▶ eliminate or adversely affect an existing bikeway, pedestrian facility, or transit facility in a way that would discourage its use;
- ▶ interfere with the implementation of a planned bikeway as shown in the County’s Bicycle Master Plan or the Bikeway and Trails Map in the City’s Circulation/Element Plan, be in conflict with the Pedestrian Master Plan, or be in conflict with any future transit facility;
- ▶ result in unsafe conditions for bicyclists or pedestrians, including unsafe bicycle/pedestrian, bicycle/motor vehicle, pedestrian/motor vehicle, transit/bicycle, transit/pedestrian, or transit/motor vehicle conflict; or
- ▶ result in demands to transit facilities greater than there is adequate capacity to accommodate.

Because the proposed specific plan is consistent with the City General Plan, the project is expected to have less-than-significant impacts on pedestrian, bicycle, and transit facilities.

## **ANALYSIS METHODOLOGY**

The study roadway segments, intersections, and freeway facilities identified for inclusion in this analysis were developed in consultation with County staff members (the County was providing support to the City when this project was initiated), City staff members, and comments received on the Notice of Preparation (NOP) (see Appendix B, Scoping Report for the Rio del Oro Development Project for copies of comments received on the NOP).

## **Roadway Facilities**

### ***Roadway Segments***

Roadway segments were analyzed by comparing the ADT volume to daily volume thresholds. Table 3.14-6 displays the daily volume thresholds for various facility types. These thresholds were used as guidelines to project the need for new or upgraded facilities. In general, analysis of intersection operations provides a more realistic assessment of traffic conditions on a road than analysis of roadway segments.

**Table 3.14-6  
Daily Volume Thresholds for Roadway Segments<sup>1</sup>**

Facility Type	Number of Lanes	Daily Volume Threshold (Level of Service)				
		LOS A	LOS B	LOS C	LOS D	LOS E
Residential	2	600	1,200	2,000	3,000	4,500
Residential local road with frontage	2	1,600	3,200	4,800	6,400	8,000
Residential local road without frontage	2	6,000	7,000	8,000	9,000	10,000
Secondary road, low access control	2	9,000	10,000	12,000	13,500	15,000
	4	18,000	21,000	24,000	27,000	30,000
Secondary road, moderate access control	6	27,000	31,500	36,000	40,500	45,000
	2	10,800	12,600	14,400	16,200	18,000
Secondary road, high access control	4	21,600	25,200	28,800	32,400	36,000
	6	32,400	37,800	43,200	48,600	54,000
Rural, two-lane highway	2	12,000	14,000	16,000	18,000	20,000
	4	24,000	28,000	32,000	36,000	40,000
Rural, two-lane road, paved shoulders	2	2,400	4,800	7,900	13,500	22,900
Rural, two-lane road, no shoulders	2	2,200	4,300	7,100	12,200	20,000
Expressway <sup>2</sup>	2	1,800	3,600	5,900	10,100	17,000
Freeway <sup>3</sup>	6	24,300	39,720	56,700	72,900	81,000
	2	14,000	21,600	30,800	37,200	40,000
	4	28,000	43,200	61,600	74,400	80,000
	6	42,000	64,800	92,400	11,600	120,000
	8	56,000	86,400	123,200	148,800	160,000

Note: LOS = level of service  
<sup>1</sup> County of Sacramento 2004  
<sup>2</sup> Based on capacities in the Rancho Cordova's General Plan EIR.  
<sup>3</sup> County of Sacramento 1997 (the 2004 Traffic Impact Analysis Guidelines do not provide capacities for freeway segments)  
Source: Data provided by Fehr & Peers in 2005

The County Guidelines and the Caltrans Route Concept Report for SR 16 identify LOS E as the minimum acceptable operating level for roadway segments within the Urban Services Boundary. The Circulation Element/Plan of the City General Plan identifies LOS D as the minimum acceptable operating level for roadway segments within Rancho Cordova.

The Circulation Element/Plan of the City General Plan does recognize that significant improvements to Sunrise Boulevard (and the other river crossings in the area) and Folsom Boulevard—improvements that are not consistent with the City’s Circulation Element/Plan—would be required to provide LOS D operations. The City’s Circulation Element/Plan has policies relating to bicycle and pedestrian connectivity and the desire to minimize intersection and roadway cross sections. For example, the policies call for a six-lane maximum roadway cross section within Rancho Cordova and a four-lane cross section on Folsom Boulevard, where the City’s mixed-use and transit-oriented design areas are located and where the City desires enhanced LRT, bicycle, and pedestrian facilities. Therefore, the Circulation Element/Plan states that it is not the City’s desire to implement roadway widening on these roadways (to more than six lanes on most roadways and to more than four lanes on Folsom Boulevard), and that a lower LOS should apply to these facilities. However, an impact threshold of LOS D was used for these facilities for the purposes of this analysis (a conservative assumption for CEQA/NEPA impact assessments).

## Signalized Intersections

Signalized intersections were analyzed using the methodology contained in *Interim Materials on Highway Capacity* (Circular 212) (Transportation Research Board 1980), consistent with the County Guidelines. (Note that use of this methodology ties project impacts to limited lane capacities at the study locations and is consistent with current study requirements in Sacramento County and other jurisdictions within the state.) This methodology determines the intersection LOS by comparing the critical V/C ratio at the intersection to the thresholds shown in Table 3.14-7. Because the County Guidelines specify higher capacities (based on field measurements) than those originally published in Circular 212, the capacities at signalized intersections were increased as follows:

- ▶ Four or more critical-phase operations: from 1,375 to 1,500 vehicles per lane per hour
- ▶ Three critical-phase operations: from 1,425 to 1,550 vehicles per lane per hour
- ▶ Two critical-phase operations: from 1,500 to 1,650 vehicles per lane per hour

Level of Service	Description	Unsignalized Intersection— Average Control Delay (sec/veh)	Signalized Intersection— Volume-to-Capacity Ratio
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	≤ 10.0	≤ 0.60
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	10.1—15.0	0.61—0.70
C	Stable flow, but the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	15.1—25.0	0.71—0.80
D	Represents high-density, but stable flow.	25.1—35.0	0.81—0.90
E	Represents operating conditions at or near the capacity level.	35.1—50.0	0.91—1.00
F	Represents forced or breakdown flow.	> 50.0	> 1.00

Note: sec/veh = seconds per vehicle  
Sources: Transportation Research Board 1980, 2000

LOS E is considered the minimum acceptable operating level for signalized study intersections located within Sacramento County. Caltrans' Route Concept Report for SR 16 (Caltrans 2004a) also states that LOS E should be maintained on SR 16 in this area. The City's Circulation Element/Plan (City of Rancho Cordova 2005a) states that LOS D should be maintained within the city limits.

As described previously, the City's Circulation Element/Plan does recognize that significant improvements would be required at intersections along Sunrise Boulevard (and the other river crossings in the area) and Folsom Boulevard to provide LOS D operations, and that such improvements would be inconsistent with other policies within the Circulation Element/Plan. Therefore, the Circulation Element/Plan states that it is not the City's desire to implement these significant improvements, and that a lower LOS should apply to these facilities. However, an impact threshold of LOS D was used for these intersections for the purposes of this analysis (a conservative assumption for CEQA/NEPA impact assessments).

## Unsignalized (Stop-Controlled) Intersections

For unsignalized (four-way stop-controlled and side-street stop-controlled) intersections, the LOS analysis was conducted using the methodology contained in Chapter 17 of the *Highway Capacity Manual* (Transportation

Research Board 2000). The LOS rating is based on the average control delay expressed in seconds per vehicle. At two-way or side-street stop-controlled intersections, LOS is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. At all-way stop-controlled intersections, LOS is based on the average delay experienced on all approaches. Table 3.14-7 also summarizes the relationship between delay and LOS for unsignalized intersections.

The minimum acceptable operating levels for unsignalized intersections are LOS E for intersections within unincorporated Sacramento County and LOS D for intersections within the city limits of Rancho Cordova.

To determine whether signals should be installed at any one location, signal warrants are typically reviewed. This consists of reviewing traffic levels, proximity of the intersection to other signals and to schools, accident frequency, and other factors against a set of warrants identified in the *Traffic Manual* (Caltrans 1995) and the *Manual on Uniform Traffic Control Devices* (FHWA 2003) to identify whether installing a traffic signal would be appropriate.

Warrants for traffic signal installation at unsignalized intersections were evaluated based on the peak-hour volume warrant contained in the *Traffic Manual*. The peak-hour warrant is a subset of the standard traffic-signal warrants recommended in the *Manual on Uniform Traffic Control Devices* and associated Caltrans guidelines. The peak-hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecasted, traffic data, and on a thorough study of traffic and roadway conditions conducted by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, because the installation of signals can lead to certain types of collisions (such as rear-end collisions). Although signals provide increased capacity at intersections and may be needed (from a capacity perspective) to serve predicted volume demands at the intersection, the potential safety implications associated with signal installation should be reviewed by the responsible state or local agency (depending on whether the intersection is controlled by the state, the County, or the City). The responsible agency should undertake regular monitoring of actual traffic conditions and accident data, and a timely reevaluation of the full set of warrants to prioritize and program intersections that may be identified for signalization in this study.

### Freeway-Ramp Merge, Diverge, and Weave

A merge/diverge analysis was conducted at area interchanges using the 2000 Highway Capacity Software package. The software is consistent with the methodologies contained in Chapters 24 and 25 of the *Highway Capacity Manual* (Transportation Research Board 2000). This methodology was chosen because it is the analysis methodology typically used by Caltrans for analysis of freeway-ramp merge, diverge, and weave maneuvers and because it correlates the LOS to the expected density of vehicles in passenger cars per mile per lane. Table 3.14-8 summarizes the relationship between density and LOS for freeway ramps.

Level of Service	Density (pc/mi/ln) <sup>1</sup>
A	< 10.0
B	> 10.0 and < 20.0
C	> 20.0 and < 28.0
D	> 28.0 and < 35.0
E	> 35.0
F	Demand exceeds capacity

Note: pc/mi/ln = passenger cars per mile per lane  
Source: Transportation Research Board 2000

The weaving analysis for the freeway segment between Hazel Avenue and Aerojet Road was conducted using the nomograph presented in Figure 507.7A in the *Highway Design Manual* (Caltrans 2004b). This methodology is referred to as the Leisch Method for Weaving Analysis and was chosen because it is the methodology typically used by Caltrans to evaluate the effectiveness of weaving segments.

Consistent with the impact guidelines, acceptable freeway-ramp operating levels are those defined by Caltrans in the Route Concept Report. Caltrans has identified LOS E as the minimum acceptable threshold for U.S. 50 freeway ramps from east of SR 99 to the El Dorado County line.

## **Bicycle, Pedestrian, and Transit Facilities**

Bicycle facilities include Class I (off-street facilities), Class II (on-street bicycle lanes identified with signage and markings), and Class III (on-street bicycle routes identified by signage). Pedestrian facilities are composed of paths, sidewalks, and pedestrian crossings. Transit facilities include shuttle services, bus service, BRT, and light-rail facilities.

## **Analysis Scenarios**

The following scenarios were analyzed to determine the impacts of the proposed project and alternatives under consideration:

- ▶ **Baseline conditions plus first phase of project (Baseline Plus Phase 1).** This scenario places traffic generated by buildout of Phase 1 of the Rio del Oro Specific Plan in the existing roadway network, along with traffic expected from projects that City staff members have identified as having already received tentative map approval, as well as traffic from development of up to 6,500 units in the SunRidge Specific Plan area.
- ▶ **Baseline conditions plus full project buildout (Baseline Plus Full Buildout),** This scenario places traffic generated by full buildout of the entire Rio del Oro Specific Plan in the existing roadway network, along with traffic expected from projects that City staff members have identified as having already received tentative map approval, as well as traffic from development of up to 6,500 units in the SunRidge Specific Plan area.
- ▶ **Cumulative (2030) conditions plus project buildout (2030 Plus Buildout).** This scenario incorporates roadways and traffic generation associated with full buildout of the entire Rio del Oro Specific Plan into the traffic volumes anticipated from regional development present in 2030.

As described earlier in this chapter, an additional analysis, corresponding to a year 2014 planning horizon, was conducted for development Phase 1 of the project and full buildout of the project (Appendix I). This scenario was not evaluated as part of the CEQA/NEPA process, but was evaluated to aid the City in identifying the phasing of transportation improvements. Year 2014 corresponds to development expected by 2014 with roadway improvements expected by 2014 (including Rancho Cordova Parkway and the associated U.S. 50 interchange).

## **Travel Demand Forecasts**

Impacts on the roadway system for baseline, year 2014, and cumulative 2030 conditions were determined by forecasting the increase in daily and peak-hour traffic volumes that would occur with implementation of the project. The 2001 modified version of the SACMET regional travel demand forecasting (TDF) model was used to develop daily and a.m. and p.m. peak-hour traffic volume forecasts for the study roadways and intersections and is consistent with the SACOG MTP 2025. A TDF model is a tool that assigns trips generated by the various land uses to the surrounding roadway network based on the locations of attractions and productions. To accomplish this task, the TDF incorporates several types of data: land use information (consistent with area general plan documents, reasonably foreseeable development, and economic land use forecasts); trip generation characteristics; mode choice; roadway networks; and census information. Using the TDF model for the Rio del Oro project allowed reasonably foreseeable planned development projects and fully funded roadway improvement projects to

be incorporated into traffic forecasting efforts. This approach uses the best available technical tools in the region to develop future forecasts for the project study area.

For this study, the model was used to generate daily and peak-hour traffic volume forecasts for the following scenarios:

- ▶ Baseline Conditions
- ▶ Baseline Plus Phase 1
- ▶ Baseline Plus Full Buildout
- ▶ Year 2014 Plus Phase 1
- ▶ Year 2014 Plus Full Buildout
- ▶ Cumulative 2030 No Project Conditions
- ▶ Cumulative 2030 Plus Buildout

Before the TDF model could be used for this study, the land use and roadway network components of the model were modified to accurately reflect each scenario.

### **Land Use Modifications**

When land use information is input into TDF models, areas are split into traffic analysis zones (TAZs). To more accurately reflect loading of land use onto the roadway system for the project study area, additional TAZs were added to the model and the project's land uses were disaggregated into these zones. Additionally, TAZs for other developments in Rancho Cordova, including but not limited to the SunRidge Specific Plan, SunCreek Specific Plan, Villages of Zinfandel, Easton Development, and Westborough Development areas, were disaggregated to accurately reflect the loading of vehicles from these zones to the surrounding roadway network.

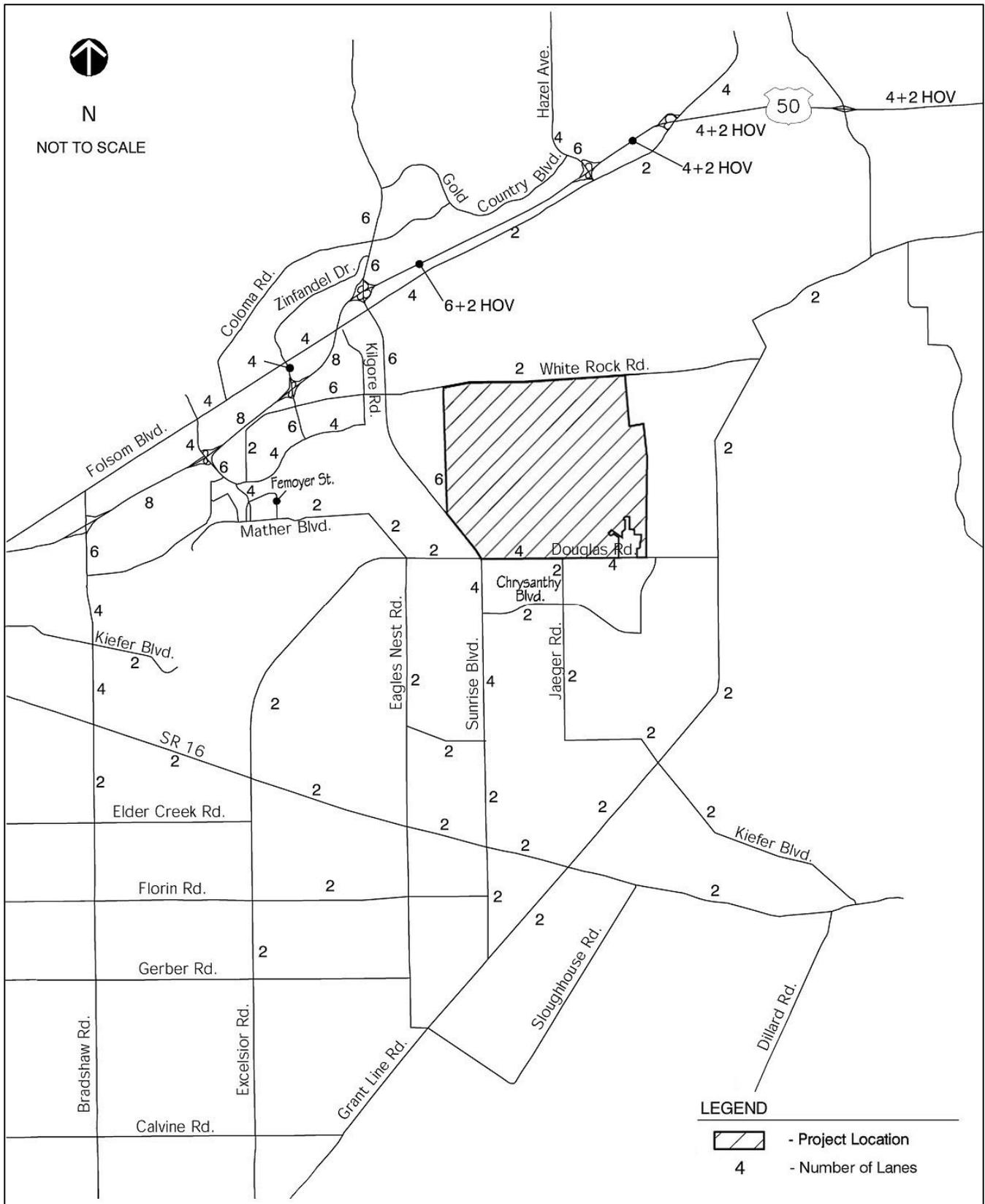
Baseline Conditions and Year 2014 land use projections were developed using information for approved projects in the area provided by City staff members and information described in *Methodology for the 2030 Cumulative Traffic Assumptions* (City of Rancho Cordova 2004). (Note: The City has refined its land use assumptions through its General Plan process since October 2004, when this methodology was published. However, the October 2004 methodology was the best information available at the time for the Year 2014 analysis.) The Year 2030 land use projections for Rancho Cordova are based on the most current information provided by City staff in August 2006 and were provided at the TAZ level for land uses in Rancho Cordova. These projections are consistent with land uses adopted for the City General Plan. Year 2014 and Year 2030 land use projections outside the City's planning area (as defined in the City General Plan) were obtained from interpolation of the SACMET land use forecasts.

### **Roadway Network Modifications**

Changes to the roadway network consisted of adding new roads in the project study area and creating new connections to the existing and planned roadway systems under Baseline (existing plus approved projects), Year 2014 (Phase 1), and Cumulative (Year 2030) conditions. Baseline roadway improvements are based on improvements that are already under construction or are a direct result of the approved projects (these improvements were identified by City staff). Regional roadways assumed for Year 2014 and Cumulative Conditions are consistent with improvements identified in the MTP 2025 (Tier I), depending on the assumed year of completion. Roadway improvements identified in the City's CIP (to be completed before year 2030) were incorporated into the Cumulative Conditions analysis for facilities within the City's current city limit boundary. This assumes that the City's CIP will be fully funded by Year 2030.

Exhibits 3.14-5a and 3.14-5b show the assumed roadway networks for Baseline and Cumulative (2030) Conditions. Exhibit 3.14-6 shows the roadway network identified in the City General Plan and the City's CIP.

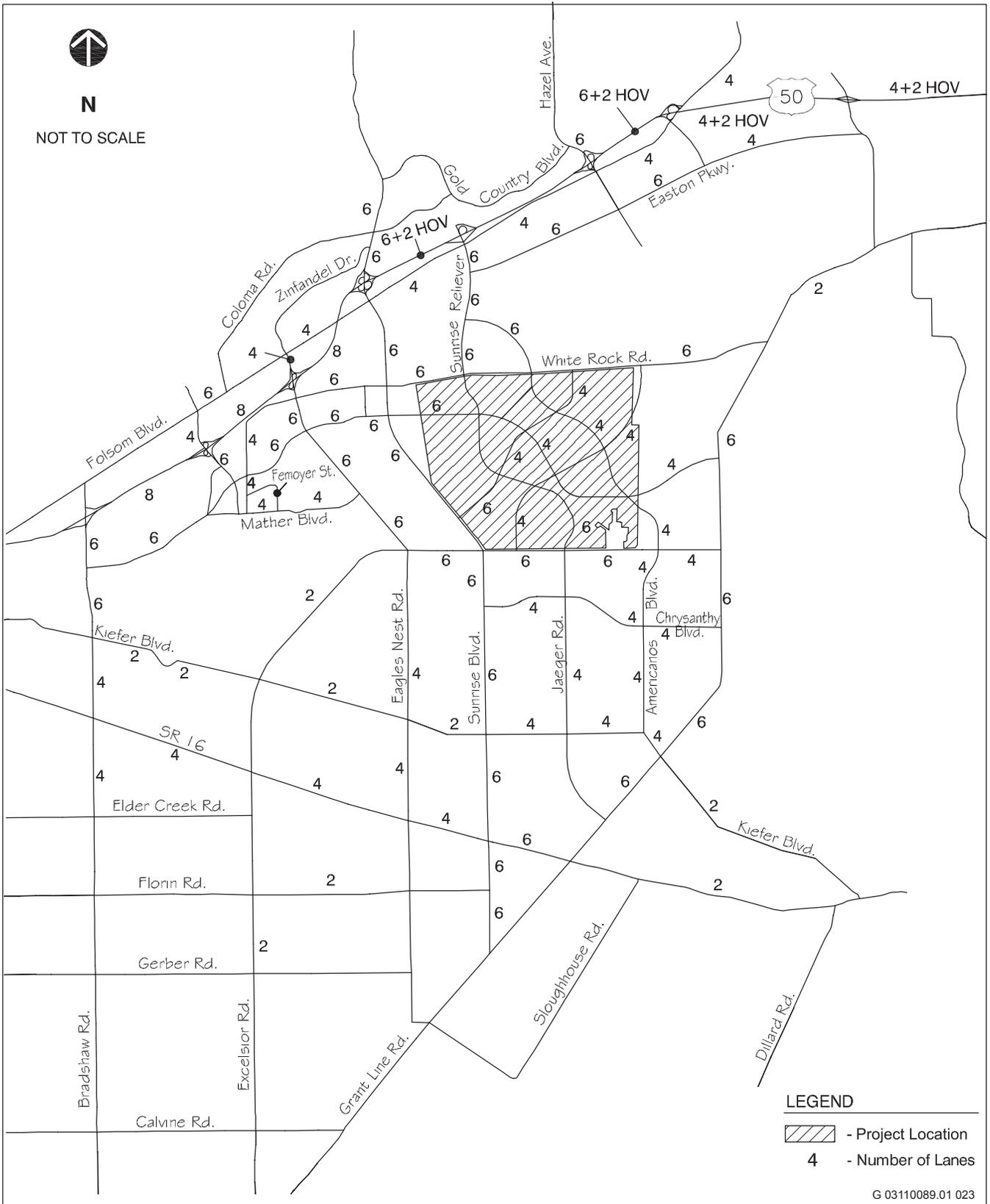
Regional and local roadways assumed for Cumulative Conditions are consistent with improvements identified in the previous edition of the MTP 2025 that were identified as fundable (summary presented in Exhibit 3.14-5b).



Source: Fehr & Peers 2005

## Number of Lanes – Baseline Conditions

EXHIBIT 3.14-5a



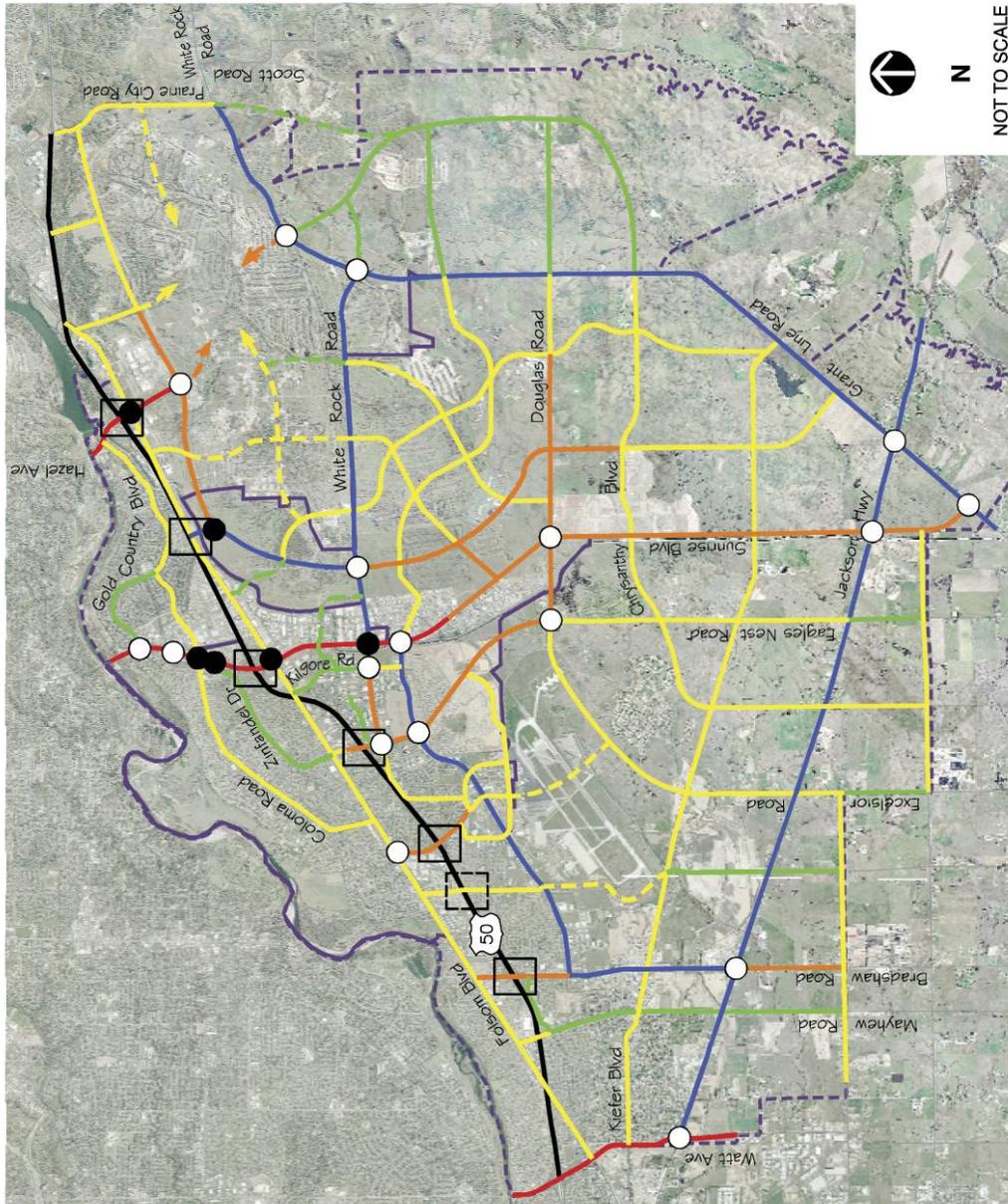
Source: Fehr & Peers 2006

### Number of Lanes – Cumulative (2030) Conditions

EXHIBIT 3.14-5b

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova and USACE  
 G 0311089.01 11/06





- LEGEND**
- 2 Lanes
  - 4 Lanes
  - 6 Lanes
  - 6 Lane Expressway (Which may incorporate Tier 2 intersection improvements)
  - 6 Lanes with Special Treatments
  - Tier 1 Intersection Improvements (Grade Separation/Flyovers)
  - Tier 2 Intersection Improvements (Aggressive at-grade improvements such as triple lefts, continuous flow, right turn overlap, or partial grade separation)
  - Interchange Improvements
  - City Limits
  - Planning Area
- NOTE:** - Dashed Facilities Foreseeable After 2030
- Number of lanes on facilities outside of city limits are recommendations and purposes only
  - Ped/Bike under/over crossings should be provided across facilities that are six or more lanes
  - Sunrise Boulevard (north of Jaeger), Hazel Avenue, Watt Avenue, Folsom Boulevard (between Zinfandel and Sunrise), and US-50 will be congested
  - Roadway connections across canal in the Easton Specific Plan area to be bicycle, pedestrian, and/or vehicle connections - to be determined in conjunction with the Easton Specific Plan

Source: Fehr & Peers 2006

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# City of Rancho Cordova Circulation Element Plan Roadway Network

EXHIBIT 3.14-6



However, it is noted that in July 2005, after the environmental review of this project had begun (in 2004), SACOG adopted a new MTP 2025. Although the region has made significant progress in reducing ozone, a problem has arisen with regard to another requirement set forth in the federal Clean Air Act. The region's transportation plan must conform and thus show that it does not harm the region's chances of attaining the ozone standard. The SIP is tied to a "motor vehicle emissions budget;" transportation planners must ensure that emissions anticipated from plans and improvement programs remain within this budget. A conformity lapse began on October 4, 2004, resulting in an expedited process to prepare a plan. The *Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan Final Report* was released in February 2006. Because of the region's lapse in air quality conformity (associated with attainment efforts for federal Clean Air Act standards for ozone), the new MTP 2025 no longer contains regional transportation projects. Based on consultation with SACOG and the Sacramento Metropolitan Air Quality Management District, this issue will be resolved after the adoption of a new MTP 2025 containing the regional transportation projects previously identified in the MTP 2025. Given these conditions, the regional and local improvements identified in the 2004 edition of the MTP 2025 are considered appropriate.

### Vehicle-Trip Generation Estimates

After the changes described above were completed, the TDF model was run for each analysis scenario. Table 3.14-9 summarizes the final a.m. peak-hour, p.m. peak-hour, and daily vehicle-trip estimates for buildout of development Phase 1 and the entire proposed Rio del Oro Specific Plan development.

<b>Table 3.14-9 Rio del Oro Vehicle-Trip Generation Summary</b>				
Development		Total Vehicle Trips <sup>1</sup>		
		A.M. Peak Hour	P.M. Peak Hour	Daily
Phase 1	Total trips <sup>2</sup>	9,330	10,210	110,690
	External trips <sup>3</sup>	7,620	8,210	88,570
Specific Plan buildout	Total trips <sup>2</sup>	19,650	20,570	229,200
	External trips <sup>3</sup>	14,750	15,190	168,470

Notes:

- <sup>1</sup> Trip summary based on 2001 version of the SACMET travel demand forecasting (TDF) model.
- <sup>2</sup> Represents total vehicle trips assigned to the traffic model roadway network and not trips internal to a traffic analysis zone (TAZ). Includes trips from one TAZ to another TAZ within the Rio del Oro Specific Plan area.
- <sup>3</sup> Represents vehicle trips external to the specific plan area (trips outside of the Rio del Oro project site). Does not include trips from one TAZ to another TAZ within the Rio del Oro Specific Plan area.

Source: Data provided by Fehr & Peers in 2005

After calculating the final vehicle-trip estimates, the SACMET TDF model produced traffic-volume forecasts for roadway segments and intersection turning movements for daily and a.m. and p.m. peak-hour conditions. The raw TDF model volumes for No Project conditions were adjusted by adding incremental growth projected by the TDF model to existing count data. A select zone analysis of the TDF model was used to aid in the development of project trip assignments. A select zone analysis is a model run where trip assignments for the selected zones that constitute the project are presented in the surrounding roadway system.

Exhibits showing intersection and roadway-segment volumes for all analysis scenarios are presented throughout this section.

### IMPACT ANALYSIS

Program level and project level (Phase 1) impacts and mitigation measures are presented together in the section below. Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No

Project). Note that all impacts of the High Density and Impact Minimization Alternatives would be similar to those of the Proposed Project Alternative, while those of the No Federal Action Alternative would be more severe than under the Proposed Project Alternative because this alternative would result in increased impacts on transportation infrastructure outside the Rio del Oro Specific Plan area. The No Project Alternative would be less severe than those of the Proposed Project Alternative because substantially less traffic-generating development would occur.

During the course of this study, the realignment of International Drive was identified for inclusion in this EIR/EIS as an option through the City’s efforts on its General Plan and the 50 Corridor Mobility Partnership work. This realignment, as well as the No Federal Action Alternative, are qualitatively described below.

**International Drive**—The option of realigning International Drive and the ways in which project impacts would differ with implementation of this option are described further under “Program Level, Project Level (Phase 1), and Cumulative Impacts and Mitigation Measures with Realignment of International Drive” below. Realignment of International Drive is generally consistent with circulation considered as part of the alternative development scenarios (project alternatives) listed above; therefore, it is not considered as a separate project alternative in this analysis.

**No Federal Action Alternative**—This alternative reflects the Proposed Project Alternative as it would be if no Section 404 of the Clean Water Act permits were issued for development of the project. Land use totals under the No Federal Action Alternative are consistent with those under the Proposed Project Alternative (with higher densities of land use), but roadway network connectivity is dramatically different. Rancho Cordova Parkway and Americanos Boulevard would terminate within the Rio del Oro project site and would not extend southward to Douglas Road. The lack of roadway connectivity for this alternative would decrease traffic volumes on most roadways within the project. However, Sunrise Boulevard, Grant Line Road, White Rock Road, and Rio del Oro Parkway would incur additional traffic burdens, such that significant impacts on these facilities would occur. Additionally, a similar effect would occur at the interchanges with U.S. 50 in the project study area. It should be noted that this alternative is inconsistent with the City General Plan Circulation Element/Plan. This alternative would result in increased impacts on transportation infrastructure outside the Rio del Oro Specific Plan area. Implementation of this alternative would result in **significant and unavoidable** impacts. No feasible mitigation is available to reduce impacts under this alternative to a less-than-significant level because the project would not provide an internal roadway network that would be feasible, nor would project roadways connect appropriately to the City’s planned circulation network under the City Circulation Element/Plan, thus resulting in additional traffic burden on transportation infrastructure outside of the project site.

### Program Level and Project Level (Phase 1) Impacts and Mitigation Measures

**IMPACT**  
3.14-1

**Increases to Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service.** *Implementation of development Phase 1 (i.e., the Baseline Plus Phase 1 scenario) and buildout of the specific plan (i.e., the Baseline Plus Full Buildout scenario) would cause an increase in a.m. peak-hour, p.m. peak-hour, and/or daily traffic volumes on area roadways, resulting in unacceptable LOS and warranting the need for improvements such as traffic signals and additional lanes.*

PP, HD, IM

Under all traffic analysis scenarios that assume implementation of development Phase 1 under the Proposed Project Alternative (i.e., the Baseline Plus Phase 1 scenario) and the Proposed Project, High Density, and Impact Minimization Alternatives at full project buildout (i.e., the Baseline Plus Full Buildout scenario), project implementation would affect LOS at study-area intersections. Exhibits 3.14-7, 3.14-8, and 3.14-9 present peak-hour traffic volumes, lane configurations, and traffic control under Baseline No Project, Baseline Plus Phase 1, and Baseline Plus Full Buildout conditions, respectively. Exhibits 3.14-10 and 3.14-11 compare ADT volumes under Baseline No Project conditions with those under Baseline Plus Phase 1 and Baseline Plus Full Buildout conditions, respectively. As shown in these exhibits, project

implementation would cause an increase in a.m. peak-hour, p.m. peak-hour, and/or daily traffic volumes at study-area intersections, roadway segments, and freeway ramps. Impacts associated with this increased traffic were compared against the thresholds of significance identified previously. For the sake of brevity, only intersections, roadways, and freeway ramps where **significant, direct** impacts would occur are discussed below, followed by required mitigation measures. There would be **no indirect** impacts in this context. Tables 3.14-10, 3.14-11, and 3.14-12 show intersections, roadway segments, and freeway ramps that would be affected by project implementation.

**NP** Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permit—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. These activities would not generate traffic that would affect the regional transportation system.

Because no project-related development would occur under the No Project Alternative, there would be no project-generated traffic that would affect the regional transportation system; thus, **no direct** or **indirect** impacts would occur.

#### Mitigation Measure Common to All Impacts under Impact 3.14-1

To avoid repetition, the information contained in the following mitigation measure applies to all other mitigation measures required under Impact 3.14-1. Note that no mitigation measures are required for the No Project Alternative because, as described above, no direct or indirect impacts would occur.

**PP, HD, IM** The project applicant(s) for all project phases shall participate in the necessary improvements identified in all of the following mitigation measures. The project's fair-share participation and the associated timing of the improvements shall be identified in the project conditions of approval and in the mitigation monitoring and reporting program for the project, or in conjunction with and as an appendix to the specific plan (see mitigation measures following each identified impact).

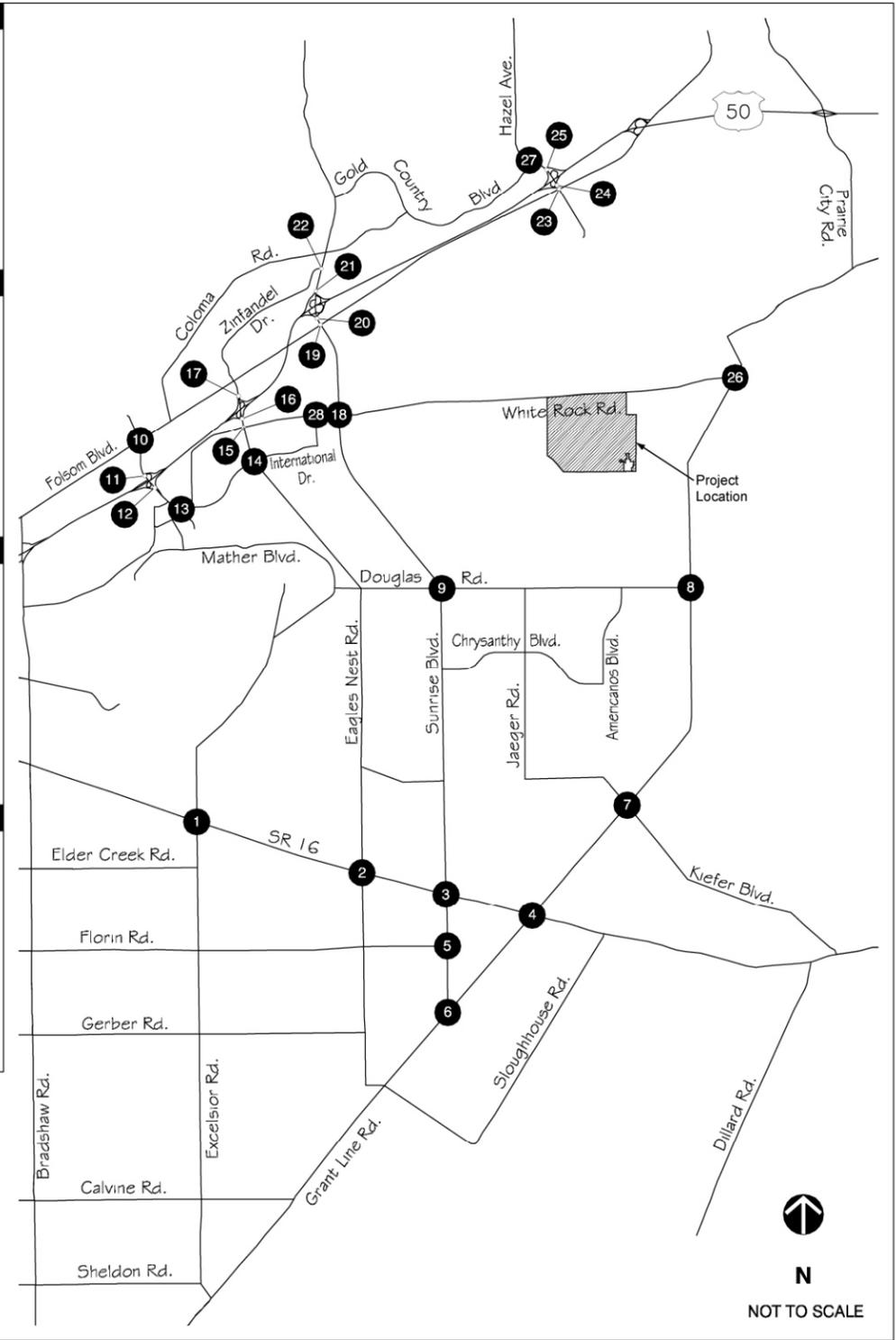
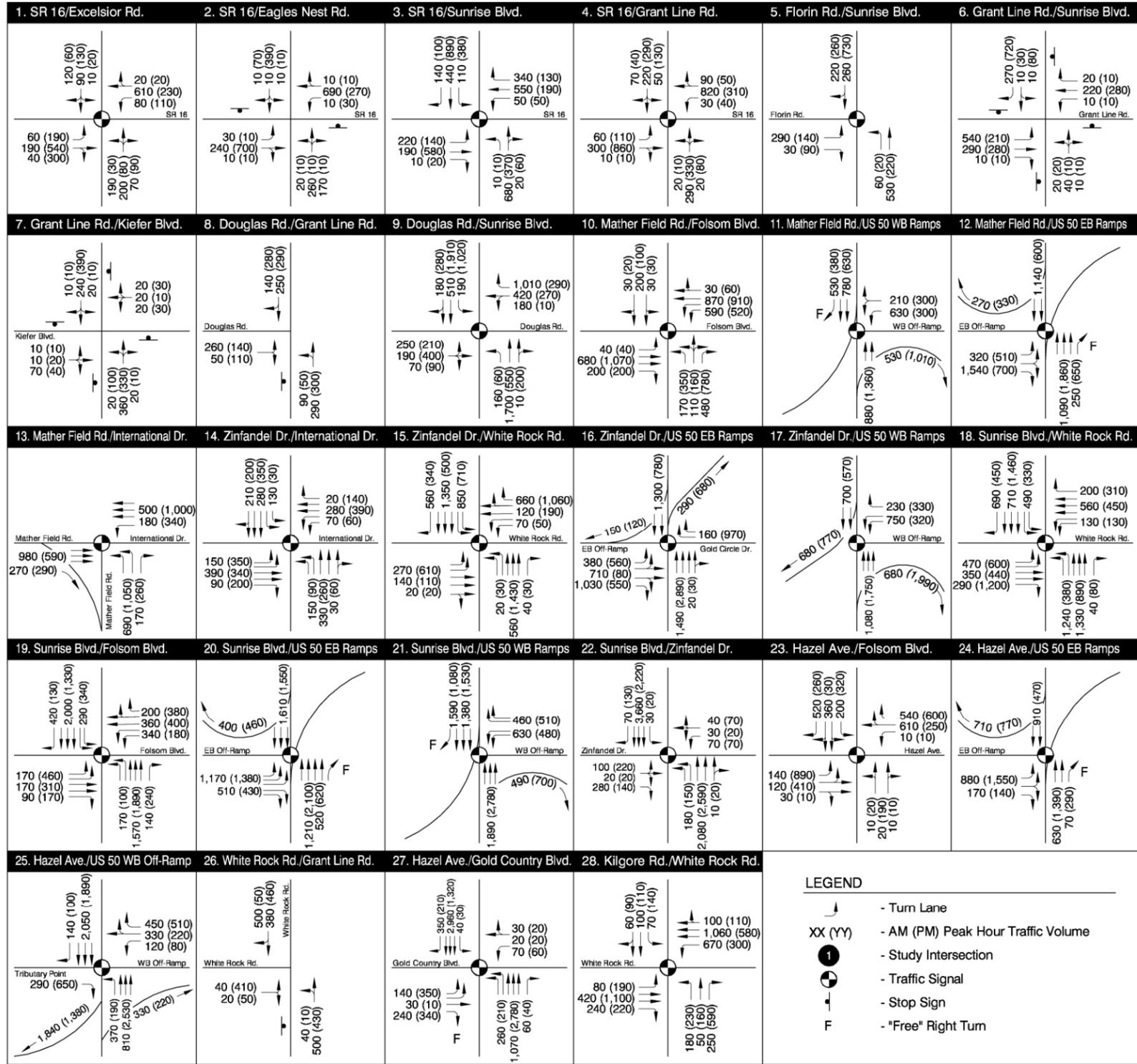
The timing and enforcement (described below) would be the same for all identified mitigation measures associated with Impact 3.14-1.

**Timing:** As a condition of project approval and/or as a condition of the development agreement for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

Please note that the improvements described in each of the following mitigation measures have not been designed, and therefore, project-specific impacts resulting from these improvements cannot be precisely identified or quantified.

If need be, the site-specific impacts of the identified improvements will be assessed pursuant to CEQA requirements when specific intersection and roadway improvement plans are developed, separate from the Rio del Oro DEIR/DEIS. Any such necessary environmental review will be completed before final approval of the improvements identified in the mitigation measures. No such additional review may be necessary, however, if the effects of such improvements are consistent with what can generally be expected of such improvements, as set forth immediately below.

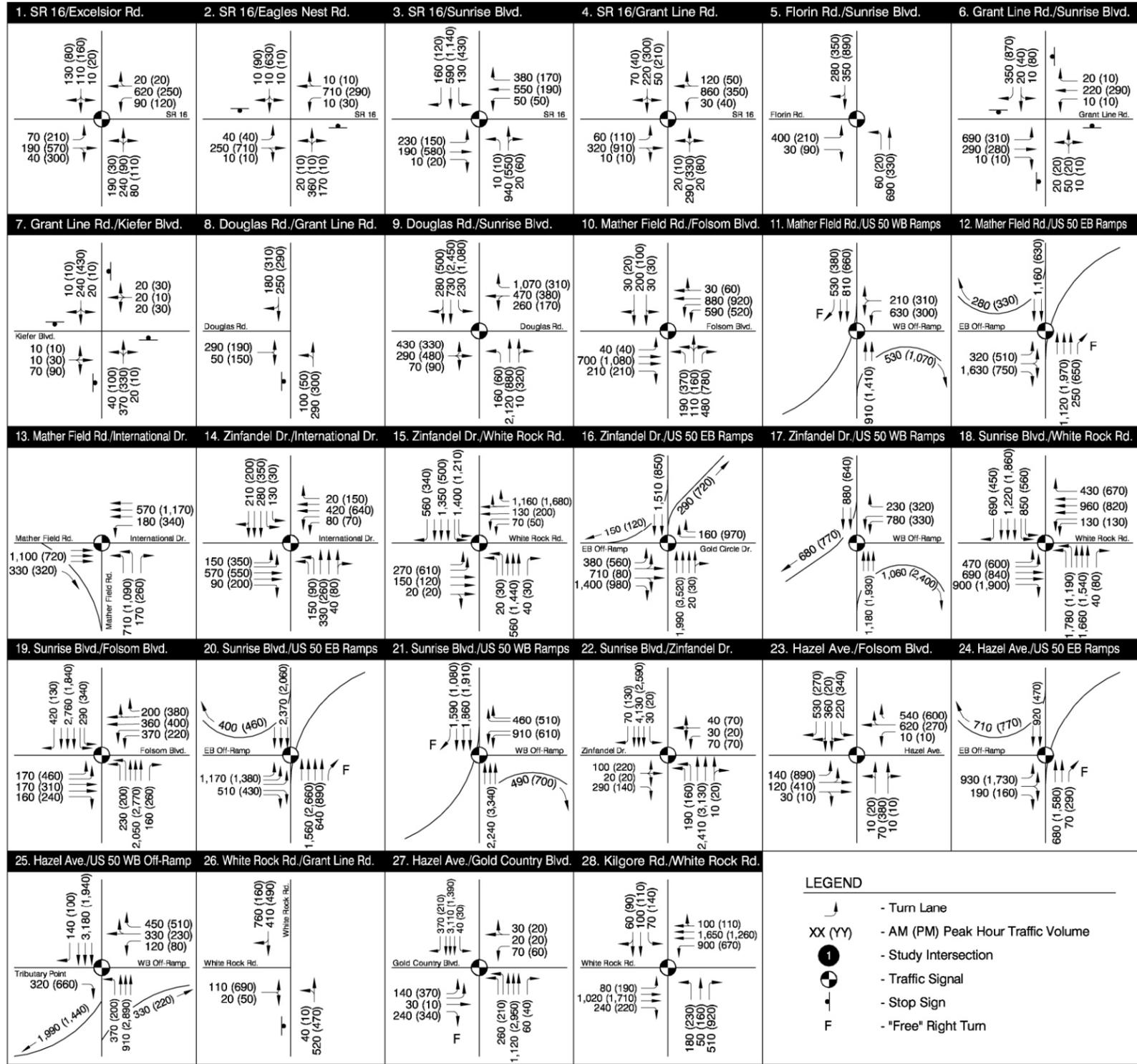


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Source: Fehr & Peers 2006

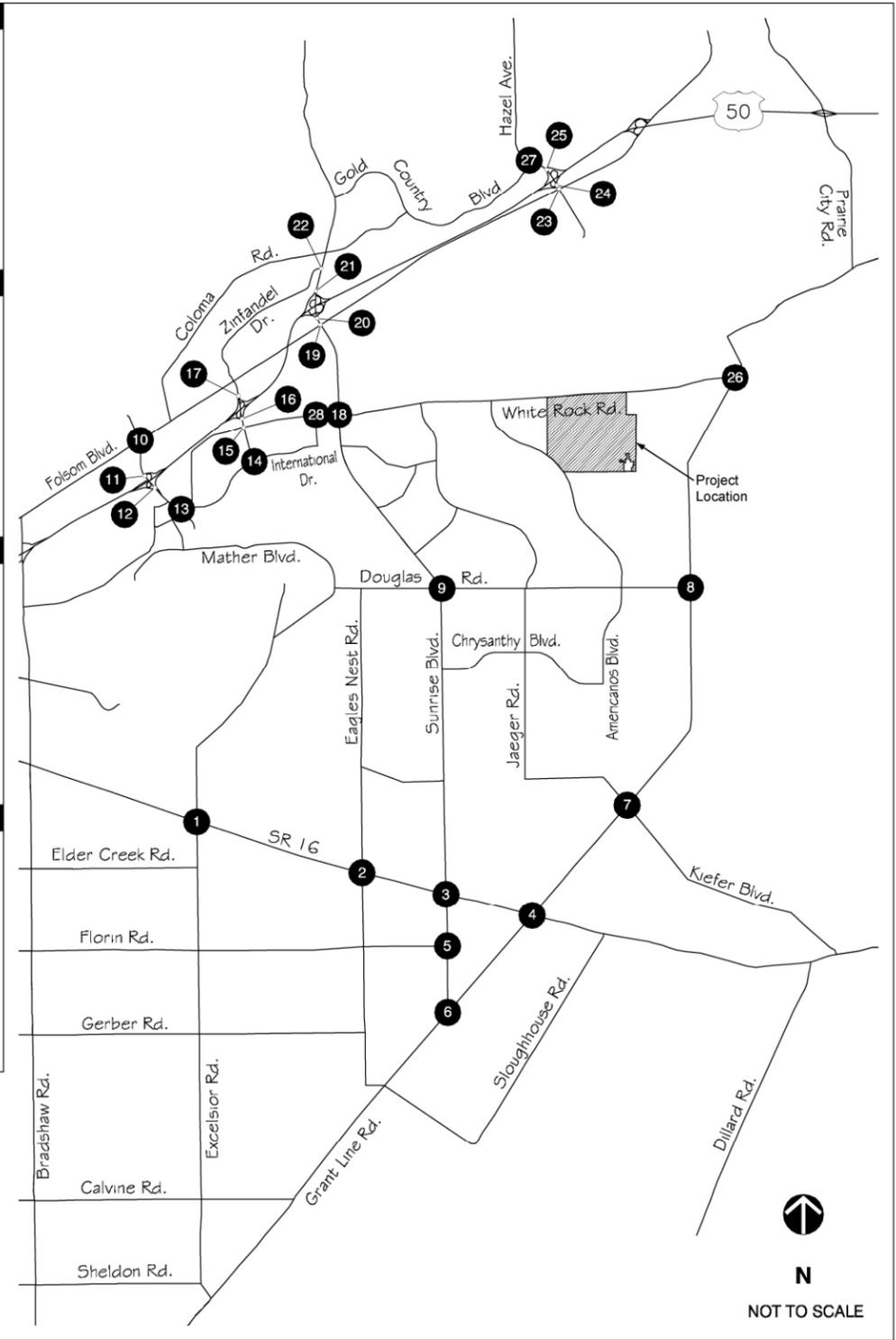
Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control-Baseline No Project Conditions

EXHIBIT 3.14-7



**LEGEND**

- Turn Lane
- XX (YY)** - AM (PM) Peak Hour Traffic Volume
- 1** - Study Intersection
- Traffic Signal
- Stop Sign
- F** - "Free" Right Turn

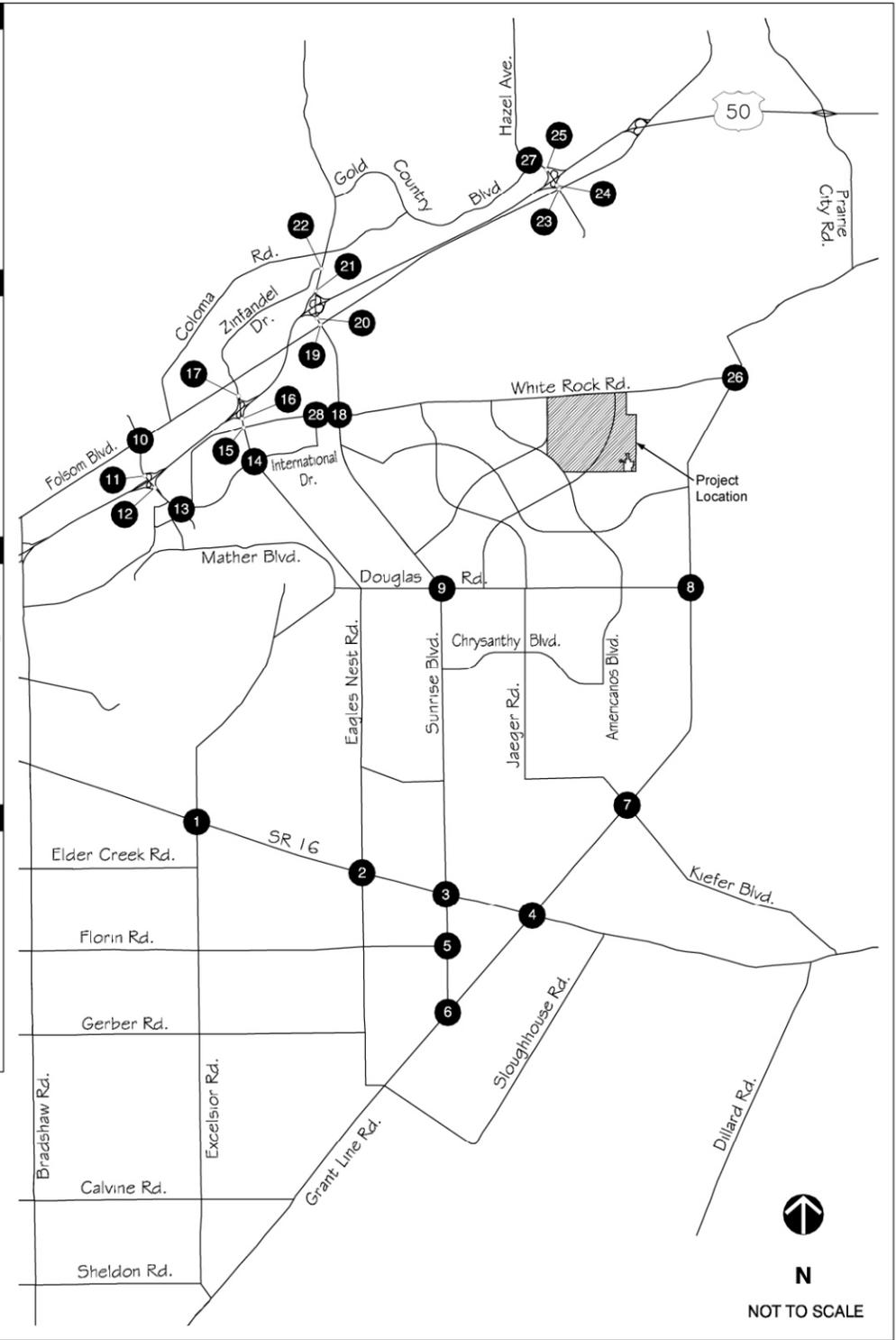
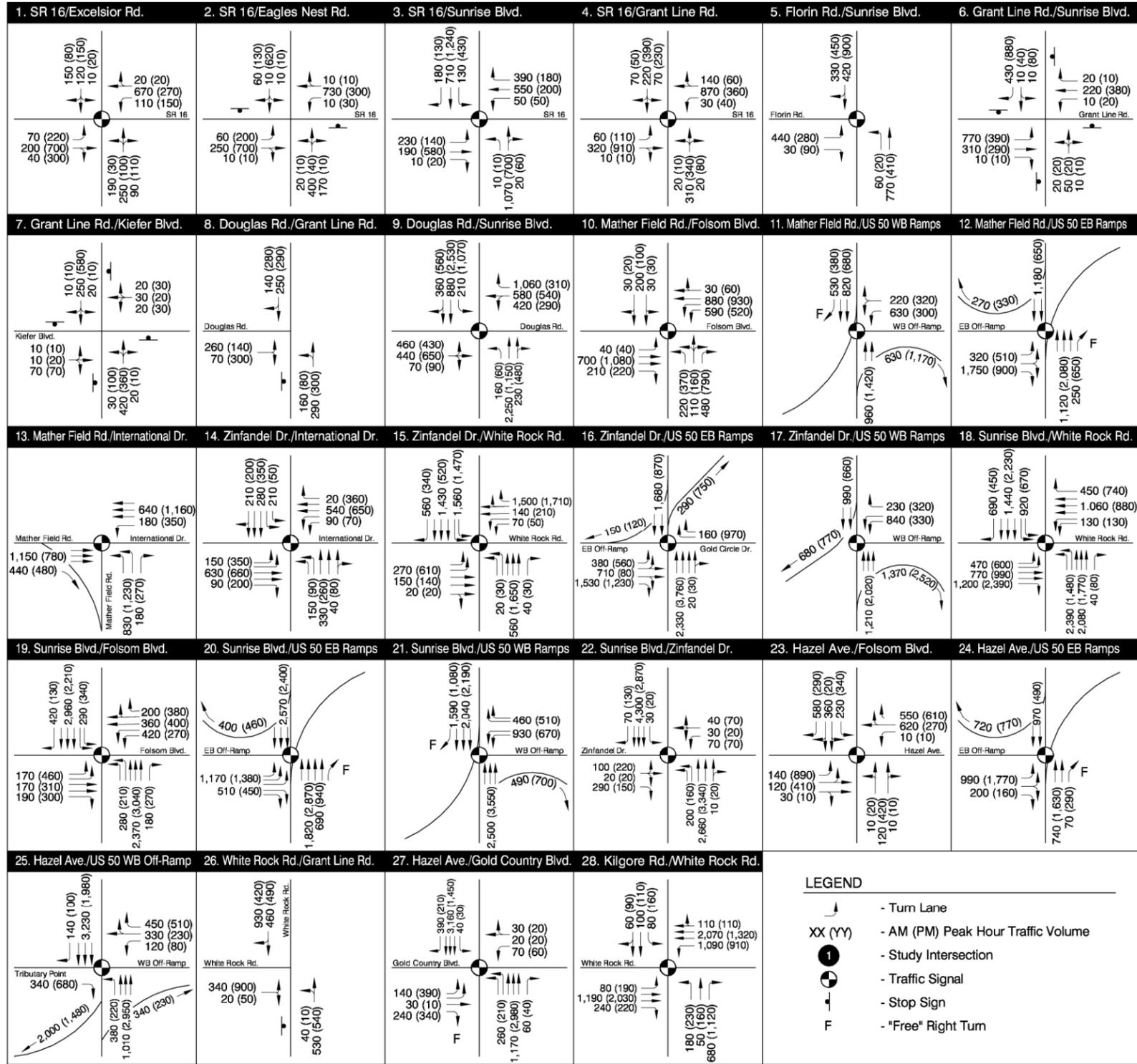


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Source: Fehr & Peers 2006

Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control-Baseline Plus Phase 1 Conditions

EXHIBIT 3.14-8



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Source: Fehr & Peers 2006

Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control-Baseline Plus Full Buildout Conditions

EXHIBIT 3.14-9





**Table 3.14-10  
Intersection Levels of Service—Baseline Conditions**

Intersection	Control	No Project Alternative				Phase 1				Proposed Project Alternative				High Density Alternative				Impact Minimization Alternative			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		V/C <sup>1</sup> or Delay <sup>2</sup>	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS						
1. SR 16/Excelsior Road	Signalized	0.91	E	0.91	E	<b>0.98</b>	E	<b>0.99</b>	E	<b>1.05</b>	F	<b>1.09</b>	F	<b>1.08</b>	F	<b>1.09</b>	F	<b>1.04</b>	F	<b>1.05</b>	F
2. SR 16/Eagles Nest Road	Side-street stop	>180	F	>180	F	>180	F	>180	F	>180	F	>180	F	>180	F	>180	F	>180	F	>180	F
3. SR 16/Sunrise Boulevard	Signalized	1.05	F	1.02	F	<b>1.25</b>	F	<b>1.19</b>	F	<b>1.33</b>	F	<b>1.25</b>	F	<b>1.33</b>	F	<b>1.27</b>	F	<b>1.25</b>	F	<b>1.22</b>	F
4. SR 16/Grant Line Road	Signalized	1.09	F	1.19	F	<b>1.14</b>	F	<b>1.29</b>	F	<b>1.19</b>	F	<b>1.37</b>	F	<b>1.18</b>	F	<b>1.36</b>	F	<b>1.18</b>	F	<b>1.36</b>	F
5. Florin Road/Sunrise Boulevard	Signalized	0.54	A	0.74	C	0.70	C	<b>0.95</b>	E	0.81	D	<b>1.07</b>	F	0.81	D	<b>1.08</b>	F	0.75	C	<b>1.03</b>	F
6. Grant Line Road/Sunrise Boulevard	All-way stop	41	E	90	F	<b>105</b>	F	<b>166</b>	F	<b>150</b>	F	>180	F	<b>166</b>	F	>180	F	<b>124</b>	F	>180	F
7. Grant Line Road/Kiefer Boulevard	All-way stop	11	B	13	B	12	B	15	C	13	B	23	C	12	B	20	C	13	B	20	C
8. Douglas Road/Grant Line Road	Side-street stop	49	E	26	D	<b>79</b>	F	<b>45</b>	E	<b>112</b>	F	<b>60</b>	F	<b>89</b>	F	<b>49</b>	E	<b>97</b>	F	<b>48</b>	E
9. Douglas Road/Sunrise Boulevard	Signalized	1.08	F	1.00	E	<b>1.39</b>	F	<b>1.33</b>	F	<b>1.52</b>	F	<b>1.53</b>	F	<b>1.60</b>	F	<b>1.53</b>	F	<b>1.61</b>	F	<b>1.54</b>	F
10. Mather Field Road/Folsom Boulevard	Signalized	0.74	C	0.94	E	0.75	C	0.94	E	0.75	C	0.95	E	0.75	C	0.95	E	0.75	C	0.95	E
11. Mather Field Road/U.S. 50 westbound ramps	Signalized	0.54	A	0.60	B	0.55	A	0.62	B	0.57	A	0.63	B	0.57	A	0.62	B	0.57	A	0.63	B
12. Mather Field Road/U.S. 50 eastbound ramps	Signalized	0.86	D	0.65	B	0.90	D	0.68	B	<b>0.94</b>	E	0.73	C	<b>0.94</b>	E	0.72	C	<b>0.93</b>	E	0.72	C
13. Mather Field Road/International Drive	Signalized	0.57	A	0.72	C	0.61	B	0.76	C	0.66	B	0.83	D	0.71	C	0.83	D	0.68	B	0.82	D
14. Zinfandel Drive/International Drive	Signalized	0.35	A	0.43	A	0.41	A	0.51	A	0.43	A	0.54	A	0.43	A	0.50	A	0.44	A	0.52	A
15. Zinfandel Drive/White Rock Road	Signalized	0.62	B	0.93	E	0.82	D	<b>1.16</b>	F	0.89	D	<b>1.27</b>	F	0.89	D	<b>1.30</b>	F	0.88	D	<b>1.24</b>	F
16. Zinfandel Drive/U.S. 50 eastbound ramps	Signalized	0.93	E	1.03	F	<b>1.04</b>	F	<b>1.27</b>	F	<b>1.14</b>	F	<b>1.39</b>	F	<b>1.12</b>	F	<b>1.43</b>	F	<b>1.13</b>	F	<b>1.37</b>	F
17. Zinfandel Drive/U.S. 50 westbound ramps	Signalized	0.47	A	0.55	A	0.53	A	0.58	A	0.58	A	0.60	B	0.56	A	0.60	A	0.57	A	0.60	B
18. Sunrise Boulevard/White Rock Road	Signalized	1.22	F	1.31	F	<b>1.76</b>	F	<b>2.16</b>	F	<b>2.18</b>	F	<b>2.68</b>	F	<b>2.21</b>	F	<b>2.89</b>	F	<b>2.14</b>	F	<b>2.58</b>	F
19. Sunrise Boulevard/Folsom Boulevard	Signalized	0.70	B	0.90	D	<b>0.94</b>	E	<b>1.09</b>	F	<b>1.04</b>	F	<b>1.48</b>	F	<b>1.05</b>	F	<b>1.13</b>	F	<b>1.03</b>	F	<b>1.14</b>	F
20. Sunrise Boulevard/U.S. 50 eastbound ramps	Signalized	0.59	A	0.63	B	0.74	C	0.72	C	0.78	C	0.79	C	0.77	C	0.81	D	0.78	C	0.78	C
21. Sunrise Boulevard/U.S. 50 westbound ramps	Signalized	0.59	A	0.73	C	0.76	C	0.88	D	0.82	D	<b>0.94</b>	E	0.83	D	<b>0.95</b>	E	0.81	D	<b>0.93</b>	E
22. Sunrise Boulevard/Zinfandel Drive	Signalized	1.07	F	1.99	F	<b>1.18</b>	F	<b>2.11</b>	F	<b>1.22</b>	F	<b>2.15</b>	F	<b>1.21</b>	F	<b>2.15</b>	F	<b>1.22</b>	F	<b>2.14</b>	F
23. Hazel Avenue/Folsom Boulevard	Signalized	0.73	C	0.82	D	0.75	C	0.90	D	0.76	C	<b>0.92</b>	E	0.77	C	<b>0.91</b>	E	0.77	C	<b>0.92</b>	E
24. Hazel Avenue/U.S. 50 eastbound ramps	Signalized	0.57	A	0.94	E	0.59	A	<b>1.06</b>	F	0.62	B	<b>1.08</b>	F	0.62	B	<b>1.06</b>	F	0.62	B	<b>1.09</b>	F
25. Hazel Avenue/U.S. 50 westbound ramps	Signalized	1.16	F	0.89	D	1.19	F	<b>0.97</b>	E	1.20	F	<b>0.98</b>	E	1.20	F	<b>0.97</b>	E	1.21	F	<b>0.99</b>	E
26. White Rock Road/Grant Line Road	Side-street stop	25	C	>180	F	<b>78</b>	F	>180	F	>180	F	>180	F	>180	F	>180	F	>180	F	>180	F
27. White Rock Road/Kilgore Road	Signalized	0.82	D	1.05	F	<b>1.33</b>	F	<b>1.72</b>	F	<b>1.63</b>	F	<b>2.32</b>	F	<b>1.67</b>	F	<b>2.20</b>	F	<b>1.67</b>	F	<b>2.20</b>	F
28. Hazel Avenue/Gold Country Boulevard	Signalized	0.92	E	0.79	C	0.95	E	0.84	D	0.96	E	0.85	D	0.96	E	0.85	D	0.96	E	0.85	D

Notes: LOS = level of service; U.S. 50 = U.S. Highway 50; V/C = volume-to-capacity

<sup>1</sup> V/C ratio is shown for signalized intersections. Delay is shown for unsignalized intersections.

<sup>2</sup> Worst-case delay reported for unsignalized, side-street-stop intersections; average intersection delay reported for all-way-stop intersections. Both delays are reported in seconds per vehicle.

Shaded areas indicate deficiency. **Bold** indicates impact.

Source: Data provided by Fehr & Peers in 2005

**Table 3.14-11  
Roadway Segment Levels of Service—Baseline Conditions**

Roadway Segment	Lanes	No Project Alternative			Phase 1			Proposed Project Alternative			High Density Alternative			Impact Minimization Alternative		
		Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
1. SR 16—Excelsior Road to Eagles Nest Road	2	12,100	0.67	B	12,300	0.68	B	12,900	0.72	C	13,000	0.72	C	12,800	0.71	C
2. SR 16—Sunrise Boulevard to Grant Line Road	2	16,000	0.89	D	17,300	0.96	E	17,500	0.97	E	17,500	0.97	E	17,500	0.97	E
3. Kiefer Boulevard—Grant Line Road to north of SR 16 <sup>1</sup>	2	1,900	0.11	B	2,000	0.12	B	2,100	0.12	B	2,100	0.12	B	2,100	0.12	B
4. Mather Boulevard—Femoyer Street to Douglas Road	2	17,400	0.97	E	<b>18,500</b>	<b>1.03</b>	<b>F</b>	<b>20,500</b>	<b>1.14</b>	<b>F</b>	<b>21,700</b>	<b>1.21</b>	<b>F</b>	<b>20,300</b>	<b>1.13</b>	<b>F</b>
5. Douglas Road—Mather Boulevard to Sunrise Boulevard	2	18,200	1.01	F	<b>22,300</b>	<b>1.24</b>	<b>F</b>	<b>25,400</b>	<b>1.41</b>	<b>F</b>	<b>27,100</b>	<b>1.51</b>	<b>F</b>	<b>25,300</b>	<b>1.41</b>	<b>F</b>
6. International Drive—South White Rock Road to Zinfandel Drive	4	13,700	0.38	A	16,300	0.45	A	17,800	0.49	A	17,900	0.50	A	17,700	0.49	A
7. International Drive—Zinfandel Drive to Kilgore Road	4	8,900	0.25	A	12,100	0.34	A	14,200	0.39	A	14,300	0.40	A	14,100	0.39	A
8. White Rock Road—Zinfandel Drive to Sunrise Boulevard	6	23,200	0.43	A	38,000	0.70	C	45,100	0.84	D	46,000	0.85	D	43,900	0.81	D
9. White Rock Road—Sunrise Boulevard to Grant Line Road	2	8,200	0.46	A	<b>16,900</b>	<b>0.94</b>	<b>E</b>	<b>20,900</b>	<b>1.16</b>	<b>F</b>	<b>21,100</b>	<b>1.17</b>	<b>F</b>	<b>20,400</b>	<b>1.13</b>	<b>F</b>
10. Folsom Boulevard—Zinfandel Drive to Sunrise Boulevard	4	20,300	0.56	A	21,100	0.59	A	21,700	0.60	B	21,800	0.61	B	21,700	0.60	B
11. Folsom Boulevard—Sunrise Boulevard to Hazel Avenue	2	13,300	0.74	C	13,800	0.77	C	13,900	0.77	C	13,900	0.77	C	13,900	0.77	C
12. Mather Field Road—Folsom Boulevard to U.S. 50 westbound ramps	4	27,000	0.75	C	27,400	0.76	C	27,900	0.78	C	28,100	0.78	C	27,700	0.77	C
13. Mather Field Road—U.S. 50 eastbound ramps to International Drive	6	41,000	0.76	C	41,800	0.77	C	43,300	0.80	D	44,200	0.82	D	43,200	0.80	D
14. Zinfandel Drive—Folsom Boulevard to U.S. 50 westbound ramps	4	24,400	0.68	B	26,500	0.74	C	27,100	0.75	C	27,100	0.75	C	27,200	0.76	C
15. Zinfandel Drive—U.S. 50 eastbound ramps to White Rock Road	6	49,000	0.91	E	<b>62,600</b>	<b>1.16</b>	<b>F</b>	<b>69,600</b>	<b>1.29</b>	<b>F</b>	<b>70,500</b>	<b>1.31</b>	<b>F</b>	<b>68,500</b>	<b>1.27</b>	<b>F</b>
16. Zinfandel Drive—White Rock Road to International Drive	6	23,000	0.43	A	23,000	0.43	A	23,200	0.43	A	23,200	0.43	A	23,200	0.43	A
17. Sunrise Boulevard—Gold Country Boulevard to Coloma Road	6	77,600	1.44	F	<b>87,200</b>	<b>1.61</b>	<b>F</b>	<b>92,500</b>	<b>1.71</b>	<b>F</b>	<b>93,300</b>	<b>1.73</b>	<b>F</b>	<b>92,000</b>	<b>1.70</b>	<b>F</b>
18. Sunrise Boulevard—Coloma Road to U.S. 50 westbound ramps	6	85,000	1.57	F	<b>96,400</b>	<b>1.79</b>	<b>F</b>	<b>102,500</b>	<b>1.90</b>	<b>F</b>	<b>103,400</b>	<b>1.91</b>	<b>F</b>	<b>101,800</b>	<b>1.89</b>	<b>F</b>
19. Sunrise Boulevard—U.S. 50 eastbound ramps to Folsom Boulevard	6	58,600	1.09	F	<b>76,100</b>	<b>1.41</b>	<b>F</b>	<b>82,900</b>	<b>1.54</b>	<b>F</b>	<b>83,900</b>	<b>1.55</b>	<b>F</b>	<b>82,100</b>	<b>1.52</b>	<b>F</b>
20. Sunrise Boulevard—Folsom Boulevard to White Rock Road	6	49,500	0.92	E	<b>69,000</b>	<b>1.28</b>	<b>F</b>	<b>77,300</b>	<b>1.43</b>	<b>F</b>	<b>78,400</b>	<b>1.45</b>	<b>F</b>	<b>76,400</b>	<b>1.41</b>	<b>F</b>
21. Sunrise Boulevard—White Rock Road to Douglas Road	6	36,700	0.68	B	<b>54,700</b>	<b>1.01</b>	<b>F</b>	<b>65,600</b>	<b>1.21</b>	<b>F</b>	<b>67,600</b>	<b>1.25</b>	<b>F</b>	<b>63,900</b>	<b>1.18</b>	<b>F</b>
22. Sunrise Boulevard—SR 16 to Grant Line Road	2	15,000	0.83	D	<b>19,800</b>	<b>1.10</b>	<b>F</b>	<b>22,400</b>	<b>1.24</b>	<b>F</b>	<b>22,600</b>	<b>1.26</b>	<b>F</b>	<b>21,900</b>	<b>1.22</b>	<b>F</b>
23. Hazel Avenue—Winding Way to U.S. 50 westbound ramps <sup>2</sup>	4	53,200	1.33	F	<b>55,400</b>	<b>1.39</b>	<b>F</b>	<b>56,300</b>	<b>1.41</b>	<b>F</b>	<b>56,300</b>	<b>1.41</b>	<b>F</b>	<b>56,200</b>	<b>1.41</b>	<b>F</b>
24. Grant Line Road—White Rock Road to Douglas Road	2	8,900	0.49	A	9,500	0.53	A	10,500	0.58	A	11,000	0.61	B	10,400	0.58	A
25. Grant Line Road—Douglas Road to SR 16	2	7,100	0.39	A	7,200	0.40	A	7,800	0.43	A	7,800	0.43	A	7,800	0.43	A
26. Grant Line Road—SR 16 to Sunrise Boulevard	2	6,100	0.34	A	6,100	0.34	A	6,200	0.34	A	6,300	0.35	A	6,200	0.34	A
27. U.S. 50—Mather Field Road to Zinfandel Drive	8	169,200	1.06	F	<b>180,100</b>	<b>1.13</b>	<b>F</b>	<b>186,500</b>	<b>1.17</b>	<b>F</b>	<b>187,200</b>	<b>1.17</b>	<b>F</b>	<b>185,300</b>	<b>1.16</b>	<b>F</b>
28. U.S. 50—Zinfandel Drive to Sunrise Boulevard	8	149,000	0.93	E	149,100	0.93	E	149,100	0.93	E	149,100	0.93	E	149,100	0.93	E
29. U.S. 50—Sunrise Boulevard to Hazel Avenue	6	122,900	1.02	F	<b>128,800</b>	<b>1.07</b>	<b>F</b>	<b>129,300</b>	<b>1.08</b>	<b>F</b>	<b>129,400</b>	<b>1.08</b>	<b>F</b>	<b>129,300</b>	<b>1.08</b>	<b>F</b>
30. U.S. 50—Hazel Avenue to Folsom Boulevard	6	108,000	0.90	D	111,000	0.93	D	111,000	0.93	D	110,400	0.92	D	110,500	0.92	D
31. Douglas Road—Sunrise Boulevard to Jaeger Road	4	21,400	0.59	A	26,500	0.74	C	29,700	0.83	D	<b>32,500</b>	<b>0.90</b>	<b>E</b>	27,200	0.76	C
32. Douglas Road—Americanos Boulevard to Grant Line Road	2	5,700	0.32	A	6,500	0.36	A	6,500	0.36	A	6,400	0.36	A	6,400	0.36	A
33. Sunrise Boulevard—Douglas Road to Kiefer Boulevard	4	25,000	0.69	B	<b>35,000</b>	<b>0.97</b>	<b>E</b>	<b>39,900</b>	<b>1.11</b>	<b>F</b>	<b>40,600</b>	<b>1.13</b>	<b>F</b>	<b>39,000</b>	<b>1.08</b>	<b>F</b>
34. Sunrise Boulevard—Kiefer Boulevard to SR 16	4	23,100	0.64	B	30,300	0.84	D	<b>33,800</b>	<b>0.94</b>	<b>E</b>	<b>34,100</b>	<b>0.95</b>	<b>E</b>	<b>33,100</b>	<b>0.92</b>	<b>E</b>
35. Excelsior Road—north of SR 16	2	4,400	0.24	A	5,000	0.28	A	5,400	0.30	A	5,700	0.32	A	5,400	0.30	A
36. SR 16—west of Excelsior Road	2	12,300	0.68	B	12,500	0.69	B	12,900	0.72	C	13,200	0.73	C	12,900	0.72	C

Notes: LOS = level of service; SR = State Route; U.S. 50 = U.S. Highway 50; V/C = volume-to-capacity

<sup>1</sup> Not expected to be a through roadway for baseline conditions.

<sup>2</sup> Assumed to have high access control.

Shaded areas indicate deficiency. **Bold** indicates impact.

Source: Data provided by Fehr & Peers in 2005

**Table 3.14-12  
Merge/Diverge/Weave Levels of Service—Baseline Conditions**

Freeway Ramp	Merge, Diverge, or Weave Maneuver	No Project Alternative				Phase 1				Proposed Project Alternative				High Density Alternative				Impact Minimization Alternative			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Density <sup>1</sup>	LOS <sup>2</sup>	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
<b>EASTBOUND U.S. 50</b>																					
Mather Field Road direct off-ramp	Diverge	47	F	43	F	49	F	45	F	51	F	48	F	51	F	48	F	51	F	47	F
Mather Field Road loop on-ramp	Merge	23	C	24	C	24	C	25	C	25	C	25	C	25	C	26	C	25	C	25	C
Mather Field Road direct on-ramp	Merge	23	C	23	C	24	C	24	C	24	C	24	C	24	C	24	C	24	C	24	C
Zinfandel Drive direct off-ramp	Diverge	24	C	19	B	28	D	23	C	30	F	26	C	29	F	25	F	30	F	25	C
Zinfandel Drive loop on-ramp	Merge	20	B	25	C	20	C	25	C	20	C	25	C	20	C	27	C	20	C	25	C
Zinfandel Drive direct on-ramp	Merge	20	B	25	C	20	B	25	C	20	C	25	C	20	C	25	C	20	C	25	C
Sunrise Boulevard direct off-ramp	Diverge	23	C	32	F	23	C	32	F	23	C	32	F	23	C	32	F	23	C	32	F
Sunrise Boulevard loop/direct on-ramp	Merge	28	C	36	E	29	D	38	F	29	D	39	F	30	D	39	F	29	D	39	F
Hazel Avenue direct off-ramp	Diverge	16	B	25	C	16	B	27	C	17	B	27	C	17	B	27	C	17	B	27	C
Hazel Avenue loop/direct on-ramp	Weave	NA	C	NA	D	NA	C	NA	D	NA	C	NA	D	NA	C	NA	D	NA	C	NA	D
Aerojet direct off-ramp																					
<b>WESTBOUND U.S. 50</b>																					
Hazel Avenue direct off-ramp	Diverge	44	F	37	E	45	F	37	E	46	F	37	E	45	F	37	E	45	F	37	E
Hazel Avenue loop on-ramp	Merge	37	E	30	D	38	E	30	D	38	E	30	D	38	E	30	D	38	E	30	D
Sunrise Boulevard direct off-ramp	Diverge	22	C	15	B	25	C	16	B	25	C	16	B	25	C	17	B	25	C	17	B
Zinfandel Drive direct off-ramp	Diverge	38	E	29	D	38	E	29	D	39	E	29	D	38	E	30	D	39	E	29	D
Zinfandel Drive loop on-ramp	Merge	29	D	28	C	30	D	29	D	30	D	29	D	30	D	29	D	30	D	29	D
Zinfandel Drive direct on-ramp	Merge	37	F	38	F	39	F	40	F	40	F	40	F	41	F	40	F	40	F	40	F
Mather Field Road direct off-ramp	Diverge	38	E	37	E	39	E	39	E	41	F	40	F	41	F	40	E	40	F	39	E
Mather Field Road loop on-ramp	Merge	30	D	32	D	32	D	33	F	33	D	33	F	33	D	33	F	32	D	33	F
Mather Field Road direct on-ramp	Merge	39	F	44	F	41	F	47	F	43	F	48	F	44	F	48	F	43	F	47	F

Notes:

LOS = level of service; NA = not applicable; U.S. 50 = U.S. Highway 50.

<sup>1</sup> Density in passenger cars per mile per lane for merge/diverge analysis only.

<sup>2</sup> LOS computed using Highway Capacity Software (HCS) 2000 software for the merge/diverge analysis consistent with *Highway Capacity Manual* (HCM) 2000 methodologies. Weave analysis evaluated using the Leisch Method for Weaving Analysis.

Shaded areas indicate deficiency where calculation indicates that demand exceeds capacity.

Source: Data provided by Fehr & Peers in 2005

Based on review of existing available environmental documentation, field review at a reconnaissance level, and review of aerial photography, it is anticipated that, at worst, the construction of these intersection and roadway improvements could directly adversely affect wetland resources and associated grassland habitat area and could result in construction-related environmental effects, including but not limited to:

- ▶ impacts related to construction traffic, noise, air quality, water quality, and drainage;
- ▶ impacts on cultural resources; and
- ▶ impacts on special-status plants and animals and their habitats.

In addition to construction-related impacts, implementation of these improvements could result in long-term effects on water quality and drainage. The impacts that could arise from the planned improvements would be measured using the significance thresholds identified in each section of Chapter 3 of this DEIR/DEIS.

Once a planned roadway is designed, the City would retain a qualified biologist to conduct a reconnaissance survey to determine the type(s) of habitat to be removed, and whether wetlands or special-status species are present. The City would also conduct a cultural resources records search to determine whether any known cultural resources are present.

The mitigation measures recommended in Chapter 3 of this DEIR/DEIS would be applied (where applicable) to mitigate any such effects, if significant, to less-than-significant levels. For example, measures would be implemented to ensure no net loss of wetlands. Best management practices and Sacramento Metropolitan Air Quality Management District measures would be implemented for water and air quality effects, and preconstruction surveys would be performed where sensitive habitat is present (and if special-status species or habitat is present, the biological resources protection measures would be implemented). The relocation of any utility pole or other utilities would be coordinated with the appropriate service provider to ensure that there would be no impact on the service provider. Additionally, if permits or other authorizations are required, they would be secured and the conditions would be followed.

For improvements to the following intersections and roadway improvements, the following impacts (in addition to the above) could result from implementation of required improvements:

- ▶ Direct impacts on the Folsom South Canal from implementation of the Zinfandel Drive and International Drive Extensions—Sunrise Boulevard/Douglas Road, Sunrise Boulevard/White Rock Road, and Sunrise Boulevard/Folsom Boulevard intersections (Intersections 9, 18, and 19, respectively)
- ▶ Direct impacts from the required grade separation structure—Sunrise Boulevard/Zinfandel Drive intersection (Intersection 22)
- ▶ Direct impacts from potential widening of the structure across U.S. 50—Hazel Avenue/U.S. 50 eastbound ramps and Hazel Avenue/U.S. 50 westbound ramps intersections (Intersections 24 and 25, respectively)
- ▶ Direct impacts on the Folsom South Canal from implementation of the International Drive Extension—Kilgore Road/White Rock Road intersection (Intersection 27)
- ▶ Direct impacts from required widening of the existing crossing of the Folsom South Canal—Douglas Road between Mather Boulevard and Sunrise Boulevard (Roadway Segment 5)

- ▶ Direct impacts from potential removal of approximately 40 large trees (primarily oak trees) and associated (primarily grassland) vegetation, and approximately 100 power poles, resulting from improvements to White Rock Road between Sunrise Boulevard and Grant Line Road (Roadway Segment 9)
- ▶ Direct impacts from required new river crossings of the American River—Sunrise Boulevard between Gold Country Boulevard and Coloma Road and Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps (Roadway Segments 17 and 18, respectively)
- ▶ Direct impacts from potential removal of approximately 80 utility poles, 60 street lights, approximately 50 large trees, and commercial/industrial property, resulting from improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20)
- ▶ Direct impacts from potential removal of approximately 60 utility poles, 100 street lights, approximately 40 large trees (primarily oak trees and landscaped trees), and commercial/industrial property, resulting from improvements to Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21)
- ▶ Direct impacts from potential removal of approximately 35 utility poles and two trees, as well as other vegetation, resulting from improvements to Douglas Road between Jaeger Road and Sunrise Boulevard (Roadway Segment 31)
- ▶ Direct impacts from potential removal of approximately 50 power poles, resulting from improvements to Sunrise Boulevard between Douglas Road and Kiefer Boulevard (Roadway Segment 33)
- ▶ Direct impacts on an already congested Sunrise Boulevard corridor

Regarding the Sunrise Boulevard corridor, phasing of circulation improvements, consistent with the City’s Infrastructure Phasing Plan, would aid in minimizing impacts on intersections and roadway segments on Sunrise Boulevard and should be considered when prioritizing improvements for implementation.

NP No mitigation measures are required.

The following impacts and mitigation measures apply only to those intersections, roadways, and freeway ramps where significant, direct impacts would occur. Summary impacts are followed by required mitigation measures. Note that no mitigation measures are required for Impacts 3.14-1a through 3.14-1jj under the No Project Alternative. As stated above in the summary discussion of Impact 3.14-1, under this alternative there would be no project-related traffic that would affect the regional transportation system; therefore, there would be no direct or indirect impacts under the No Project Alternative.

<p>IMPACT 3.14-1a</p>	<p>Unacceptable LOS at the SR 16/Excelsior Road Intersection (Intersection 1). <i>Signalized intersection operations at SR 16/Excelsior Road would degrade from LOS E to LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic both under both development Phase 1 and full project buildout.</i></p>
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Mitigation Measure 3.14-1a: Participate in Improvements to the SR 16/Excelsior Road Intersection (Intersection 1).

PP, HD, IM

To ensure that the SR 16/Excelsior Road intersection operates at an acceptable LOS, all of the following improvements are required:

- ▶ The northbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one shared through/right-turn lane.
- ▶ The southbound approach must be reconfigured to consist of two left-turn lanes, two through lanes, and one right-turn lane.
- ▶ The eastbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one right-turn lane.
- ▶ The westbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.

These improvements would require widening of SR 16 east and west of the intersection to accommodate the additional lanes.

Improvements to the SR 16/Excelsior Road intersection are contained within the *SunRidge Specific Plan Public Facilities Financing Plan* and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/SunRidge Specific Plan Project state that physical improvement of this intersection is feasible. Implementation of the improvements described above would assist in reducing traffic impacts on this intersection by providing acceptable operations. If these improvements are completed concurrent with development of the SunRidge Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1a would reduce the significant impact on Intersection 1 under development Phase 1 (Proposed Project Alternative) and at full buildout under the Proposed Project, High Density, and Impact Minimization Alternatives to a less-than-significant level, by allowing the intersection to operate at an acceptable LOS D or better. However, the identified improvements, including the necessary widening of SR 16 east and west of the intersection, fall under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

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| IMPACT |  
3.14-1b

Unacceptable LOS at the SR 16/Eagles Nest Road Intersection (Intersection 2). *The unsignalized intersection of SR 16/Eagles Nest Road would operate at LOS F during the a.m. and p.m. peak traffic hours with and without project-related traffic both under development Phase 1 and at full project buildout. Project-related traffic would increase the delay for the worst-case approach at this intersection by more than 5 seconds during the peak traffic hours.*

**Mitigation Measure 3.14-1b: Participate in Improvements at the SR 16/Eagles Nest Road Intersection (Intersection 2).**

PP, HD, IM To ensure that the SR 16/Eagles Nest Road intersection operates at an acceptable LOS, a traffic signal must be installed at this intersection, and the eastbound and westbound approaches must be reconfigured to consist of one left-turn lane, one through lane, and one shared through/right-turn lane.

These improvements would require widening of SR 16 for 1,000 feet on both sides of this intersection to accommodate the additional through lanes.

Improvements to the SR 16/Eagles Nest Road intersection are contained within the *SunRidge Specific Plan Public Facilities Financing Plan* and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/SunRidge Specific Plan Project state that physical improvement of this intersection is feasible. Implementation of the improvements described above, including the necessary widening of SR 16, would assist in reducing traffic impacts on this intersection. If these improvements are completed concurrent with development of the SunRidge Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1b would reduce the significant impact on Intersection 2 under development Phase 1 (Proposed Project Alternative) and at full buildout under the Proposed Project, High Density, and Impact Minimization Alternatives to a less-than-significant level, by allowing the intersection to operate at an acceptable LOS D or better. However, the identified improvements fall under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**Unacceptable LOS at the SR 16/Sunrise Boulevard Intersection (Intersection 3).** *The signalized intersection of SR 16/Sunrise Boulevard would operate at LOS F during the a.m. and p.m. peak traffic hours with and without project-related traffic both under development Phase 1 and at full project buildout. Project-related traffic would increase the critical V/C ratio by more than 0.05.*

**Mitigation Measure 3.14-1c: Participate in Improvements to the SR 16/Sunrise Boulevard Intersection (Intersection 3).**

PP, HD, IM To ensure that the SR 16/Sunrise Boulevard intersection operates at an acceptable LOS, the northbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one shared through/right-turn lane; and the southbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.

An additional through lane would be needed in the eastbound and westbound directions, which would require widening of SR 16 on both sides of the intersection for a minimum of 1,000 feet in both directions. With these improvements, this intersection would operate at an acceptable LOS.

Improvements to the SR 16/Sunrise Boulevard intersection are contained within the County Development Fee Program, are scheduled for Measure A funding, and are within the *Mather Field Specific Plan Financing Plan*. Implementation of the improvements described above, including the necessary widening of SR 16, would assist in reducing traffic impacts on this intersection. If these improvements are completed concurrent with development of the Mather

Field Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1c would reduce the significant impact on Intersection 3 under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives to a less-than-significant level, by allowing the intersection to operate at an acceptable LOS. However, the identified improvements fall under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

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│ IMPACT │  
│ 3.14-1d │  
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Unacceptable LOS at the SR 16/Grant Line Road Intersection (Intersection 4). *The signalized intersection of SR 16/Grant Line Road would operate at LOS F during the a.m. and p.m. peak traffic hours with and without project-related traffic both under development Phase 1 and at full project buildout. However, project-related traffic would also increase the V/C ratio by more than 0.05.*

**Mitigation Measure 3.14-1d: Participate in Improvements to the SR 16/Grant Line Road Intersection (Intersection 4).**

PP, HD, IM To ensure that the SR 16/Grant Line Road intersection operates at an acceptable LOS, all of the following improvements are required:

- ▶ The northbound and southbound approaches must be reconfigured to consist of one left-turn lane and one shared through/right-turn lane.
- ▶ Protected left-turn signal phasing must be provided on the northbound and southbound approaches.
- ▶ The eastbound and westbound approaches must be reconfigured to consist of one left-turn lane, one through lane, and a shared through/right-turn lane.

These improvements would require widening of SR 16 1,000 feet on both sides of the intersection.

Improvements to the SR 16/Grant Line Road intersection are contained within the County Development Fee Program, are scheduled for Measure A funding, and are within the *Mather Field Specific Plan Financing Plan*. Implementation of the improvements described above, including the necessary widening of SR 16, would assist in reducing traffic impacts on this intersection; with them, this intersection would operate at an acceptable LOS. If these improvements are completed concurrent with development of the Mather Field Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1d would reduce the significant impact on Intersection 4 under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives to a less-than-significant level, by allowing the intersection to

operate at an acceptable LOS. However, the identified improvements fall under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-1e** Unacceptable LOS at the Florin Road/Sunrise Boulevard Intersection (Intersection 5). *Signalized intersection operations at Florin Road/Sunrise Boulevard would degrade from LOS C to LOS E during the p.m. peak traffic hour with project-related traffic from development Phase 1, and from LOS C to LOS F during the p.m. peak traffic hour with the traffic under full project buildout.*

**Mitigation Measure 3.14-1e: Participate in Improvements to the Florin Road/Sunrise Boulevard Intersection (Intersection 5).**

**PP, HD, IM** To ensure that the Florin Road/Sunrise Boulevard intersection operates at an acceptable LOS, the southbound approach must be reconfigured to consist of one through lane and one dedicated right-turn lane. Improvements to this intersection must be coordinated with the County and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1e would reduce the significant impact on Intersection 5 under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives to a less-than-significant level, by allowing the intersection to operate at an acceptable LOS. However, the identified improvements fall under the jurisdiction of the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-1f** Unacceptable LOS at the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6). *Unsignalized intersection operations at Grant Line Road/Sunrise Boulevard would degrade from an acceptable LOS E during the a.m. peak traffic hour and an unacceptable LOS F during the p.m. peak traffic hour, to an unacceptable LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic from development Phase 1 and full project buildout. In addition, project traffic would increase delay on the worst-case approach by more than 5 seconds during the p.m. peak traffic hour.*

**Mitigation Measure 3.14-1f: Participate in Improvements to the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6).**

**PP, HD, IM** To ensure that the Grant Line Road/Sunrise Boulevard intersection operates at an acceptable LOS, all of the following improvements are required:

- ▶ A traffic signal must be installed at this intersection.
- ▶ The southbound approach must be reconfigured to consist of one left-turn lane, one through lane, and two dedicated right-turn lanes.
- ▶ The northbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one right-turn lane.
- ▶ Protected left-turn phases must be provided on the northbound and southbound approaches.

- ▶ A second eastbound left-turn lane must be added.
- ▶ Adequate receiving lanes must be provided on Sunrise Boulevard and Grant Line Road to accommodate the identified intersection geometrics.

Interim improvements to the Grant Line Road/Sunrise Boulevard intersection are contained within the Elk Grove West Vineyard Plan, with ultimate improvements within the *Vineyard Springs Comprehensive Plan Public Facilities Financing Plan*. Implementation of the improvements described above would assist in reducing traffic impacts on this intersection. If the improvements are completed concurrent with development of the West Vineyard Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Improvements to this intersection must be coordinated with the County.

Implementation of Mitigation Measure 3.14-1f would reduce the significant impact on Intersection 6 under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives to a less-than-significant level, by allowing the intersection to operate at an acceptable LOS. However, the identified improvements fall under the jurisdiction of the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-1g

Unacceptable LOS at the Grant Line Road/Douglas Road Intersection (Intersection 8). *Unsignalized intersection operations at Grant Line Road/Douglas Road would degrade from LOS E during the a.m. peak traffic hour and LOS D during the p.m. peak traffic hour to LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic from development Phase 1 and full project buildout.*

**Mitigation Measure 3.14-1g: Participate in Improvements to the Grant Line Road/Douglas Road Intersection (Intersection 8).**

PP, HD, IM To ensure that the Grant Line Road/Douglas Road intersection operates at an acceptable LOS, a traffic signal must be installed at this intersection.

Improvements to the Grant Line Road/Douglas Road intersection are contained within the *SunRidge Specific Plan Public Facilities Financing Plan*. Implementation of the improvement described above would assist in reducing traffic impacts on this intersection. If this improvement is completed concurrent with development of the SunRidge Specific Plan and implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Implementation of Mitigation Measure 3.14-1g would reduce the significant impact on Intersection 8 under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives to a **less-than-significant** level.

IMPACT  
3.14-1h

Unacceptable LOS at the Sunrise Boulevard/Douglas Road Intersection (Intersection 9). *Signalized intersection operations at Sunrise Boulevard/Douglas Road would degrade from LOS F during the a.m. peak traffic hour and LOS E during the p.m. peak traffic hour, to LOS F during both the a.m. and p.m. peak traffic hours with project-related traffic from development Phase 1 and full project buildout. In addition, project traffic would increase the V/C ratio at the intersection by more than 0.05.*

**Mitigation Measure 3.14-1h: Participate in Improvements to the Sunrise Boulevard/Douglas Road Intersection (Intersection 9).**

PP, HD, IM Improvements must be made to ensure that the Sunrise Boulevard/Douglas Road intersection operates at an acceptable LOS. Specifically, all approaches must be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane. However, with implementation of this improvement, the intersection would continue to operate at an unacceptable LOS E or LOS F.

To further improve operations at the intersection, additional roadway connectivity is required. To achieve this connectivity, the Zinfandel Drive Extension must be implemented (to accommodate traffic generated within the SunRidge Specific Plan area), International Drive must be extended to Sunrise Boulevard and into and through the Rio del Oro project site, and Rancho Cordova Parkway (and its connection to U.S. 50) must be implemented.

Improvements to this intersection are contained within the *SunRidge Specific Plan Public Facilities Financing Plan*. The extension of Zinfandel Drive is identified as part of the *Mather Field Specific Plan Public Facilities Financing Plan*. Funding has been identified for Rancho Cordova Parkway and the interchange and for the extension of International Drive to Sunrise Boulevard within the City’s CIP program. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection.

Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1h would reduce the significant impact on Intersection 9 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the identified improvements are not under the City’s jurisdiction. The Zinfandel Drive Extension falls under the jurisdiction of the County, and Rancho Cordova Parkway and its associated interchange fall under the jurisdiction of Caltrans and the County. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT 3.14-1i Unacceptable LOS at the Mather Field Road/U.S. 50 Eastbound Ramps (Intersection 12). *Signalized intersection operations at Mather Field Road/U.S. 50 eastbound ramps would degrade from LOS D during the a.m. peak traffic hour to LOS F during both the a.m. peak traffic hour with project-related traffic from full project buildout.*

**Mitigation Measure 3.14-1i: Participate in Improvements to the Mather Field Road/U.S. 50 Eastbound Ramps Intersection (Intersection 12).**

PP, HD, IM Improvements must be made to ensure that the Mather Field Road/U.S. 50 eastbound ramps intersection operates at an acceptable LOS. Specifically, the eastbound ramp needs modification to make the eastbound right turn a “free” movement. This would require a receiving lane on Mather Field Road, south of the intersection.

To further improve operations at the intersection, additional roadway connectivity is required. To achieve this connectivity, the Zinfandel Drive Extension must be implemented (to accommodate traffic generated within the SunRidge Specific Plan area), International Drive must be extended

to Sunrise Boulevard and into and through the Rio del Oro project site, and Rancho Cordova Parkway (and its connection to U.S. 50) must be implemented.

The extension of Zinfandel Drive is identified as part of the *Mather Field Specific Plan Public Facilities Financing Plan*. Funding has been identified for Rancho Cordova Parkway and the interchange and for the extension of International Drive to Sunrise Boulevard within the City's CIP program. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection.

Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1i would reduce the significant impact on Intersection 12 to a less-than-significant level by improving intersection LOS under full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the identified improvements are not under the City's jurisdiction. The intersection is ultimately controlled by Caltrans. The Zinfandel Drive Extension falls under the jurisdiction of the County, and Rancho Cordova Parkway and its associated interchange fall under the jurisdiction of Caltrans and the County. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of these improvements. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-1j

Unacceptable LOS at the Zinfandel Drive/White Rock Road Intersection (Intersection 15). *Signalized intersection operations at Zinfandel Drive/White Rock Road would degrade from an unacceptable LOS E to an unacceptable LOS F during the a.m. peak traffic hour with project-related traffic from development Phase 1 and full project buildout. This intersection would operate at an unacceptable level both with and without project traffic. However, the V/C ratio at the intersection would increase by more than 0.05 with project traffic.*

#### Mitigation Measure 3.14-1j: Participate in Improvements to the Zinfandel Drive/White Rock Road Intersection (Intersection 15).

PP, HD, IM

To offset project-related impacts at the Zinfandel Drive/White Rock Road intersection, all of the following improvements are required:

- ▶ The southbound approach must be reconfigured to consist of three left-turn lanes, two through lanes, and one right-turn lane.
- ▶ The eastbound approach must be reconfigured to consist of two left-turn lanes, two through lanes, and one shared through/right-turn lane.
- ▶ The westbound approach must be reconfigured to consist of two left-turn lanes, three through lanes, and one free right-turn lane.

Although these improvements offset the impacts of the project, this intersection would still operate at an unacceptable LOS. Additional improvements must be made to satisfy the City's LOS D threshold, including additional roadway connectivity such as the extension of International Drive to Sunrise Boulevard, extension of Kiefer Boulevard, and implementation of Rancho Cordova Parkway (and its connection to U.S. 50).

Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection.

Implementation of Mitigation Measure 3.14-1j would reduce the significant impact on Intersection 15 to a **less-than-significant level** by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives.



**Unacceptable LOS at the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16).** *Signalized intersection operations at Zinfandel Drive/U.S. 50 eastbound ramps would degrade from an acceptable LOS E to an unacceptable LOS F during the a.m. peak traffic hour with project-related traffic from development Phase 1 and full project buildout. Although the intersection would operate at an unacceptable LOS F during the p.m. peak traffic hour both with and without project traffic, the V/C ratio at this intersection would increase by more than 0.05 with project traffic.*

**Mitigation Measure 3.14-1k: Participate in Improvements to the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16).**

PP, HD, IM To ensure that the Zinfandel Drive/U.S. 50 eastbound ramps intersection operates at an acceptable LOS, all of the following improvements are required:

- ▶ The northbound approach must be reconfigured to consist of four through lanes and one shared through/right-turn lane.
- ▶ The eastbound approach must be reconfigured to consist of three left-turn lanes, one through lane, and one free right-turn lane.
- ▶ The westbound approach must be reconfigured to consist of three right-turn lanes.
- ▶ The southbound approach must be reconfigured to consist of three through lanes and a free right-turn lane.

Improvements to this intersection are identified in the City’s CIP. Implementation of the improvements identified above would assist in reducing traffic impacts on the intersection. These improvements must be coordinated with Caltrans and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1k would reduce the significant impact on Intersection 16 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, these identified improvements fall under the jurisdiction of Caltrans. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**Unacceptable LOS at the Sunrise Boulevard/White Rock Road Intersection (Intersection 18).** *The signalized intersection of Sunrise Boulevard/White Rock Road would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours both with and without project-related traffic, both under development Phase 1 and at full project buildout. However, the addition of project traffic would also increase the V/C ratio at the intersection by more than 0.05 during the a.m. and p.m. peak traffic hours.*

**Mitigation Measure 3.14-11: Participate in Improvements to the Sunrise Boulevard/White Rock Road Intersection (Intersection 18).**

PP, HD, IM With two left-turn lanes, three through lanes, and one right-turn lane currently on all approaches, the Sunrise Boulevard/White Rock Road intersection would continue to operate at an unacceptable LOS as a result of sufficiently high volumes from traffic generated by the SunRidge Specific Plan and Rio del Oro Specific Plan. Therefore, to ensure that this intersection operates at an acceptable LOS, additional improvements must be made, such as grade separation of the intersection (consistent with the City’s Circulation Element/Plan) and/or additional roadway facilities such as the Zinfandel Drive Extension, International Drive Extension into and through the Rio del Oro project site, and implementation of Rancho Cordova Parkway (and its connection to U.S. 50).

Improvements to this intersection and identified additional roadway connectivity are identified in the *Mather Field Specific Plan Public Facilities Financing Plan* (Zinfandel Drive Extension) or the City’s CIP. Implementation of the improvements identified above would assist in reducing traffic impacts on this intersection. If these improvements are completed concurrent with development of the Mather Field Specific Plan or City’s Public Facilities Financing Plan and implemented before development Phase 1 of Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-11 would reduce the significant impact on Intersection 18 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, some of the identified improvements fall under the jurisdiction of Caltrans and the County. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**IMPACT** **3.14-1m** Unacceptable LOS at the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19). *Signalized intersection operations at Sunrise Boulevard/Folsom Boulevard would degrade from an acceptable LOS B during the a.m. peak traffic hour and LOS D during the p.m. peak traffic hour to an unacceptable LOS E and LOS F, respectively, with traffic from development Phase 1. The addition of project traffic under full buildout would cause a degradation to an unacceptable LOS F during both the a.m. and p.m. peak traffic hours.*

**Mitigation Measure 3.14-1m: Participate in Improvements to the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19).**

PP, HD, IM Improvements must be made to ensure that the Sunrise Boulevard/Folsom Boulevard intersection operates at an acceptable LOS both with implementation of development Phase 1 and at buildout of the specific plan under any of the development alternatives. Specifically, to reduce impacts of development Phase 1, two left-turn lanes, four through lanes, and one right-turn lane should be added on the northbound and southbound approaches; and the westbound approach should be reconfigured to consist of two left-turn lanes, two through lanes, and two right-turn lanes. To reduce impacts associated with specific plan buildout, all of the following improvements should be made:

- ▶ Two left-turn lanes, four through lanes, and one right-turn lane should be added on the southbound approach.
- ▶ Two left-turn lanes, four through lanes, and one shared through/right-turn lane should be added on the northbound approach.
- ▶ Two left-turn lanes, two through lanes, and two right-turn lanes should be added on the westbound approach.

Implementing the improvements described above would provide acceptable operations at this intersection. However, doing so would require Sunrise Boulevard to expand to eight or more lanes, which is inconsistent with the City’s Circulation Element/Plan because City policy requires roadway cross sections of six or fewer lanes.

An alternative to these improvements is to implement parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), Zinfandel Drive Extension, International Drive Extension into and through the Rio del Oro project site, and realignment of International Drive with Old Placerville Road (with associated roadway improvements). Implementing these alternative improvements would improve operations at and assist in reducing traffic impacts on this intersection.

Some of the improvements described above are identified in the *Mather Field Specific Plan Public Facilities Financing Plan* (Zinfandel Drive Extension) and the City’s CIP. Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1m would reduce the significant impact on Intersection 19 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the intersection widening, which would require Sunrise Boulevard to be expanded to eight or more lanes, which is inconsistent with the City’s Circulation Element/Plan. Additionally, some of the identified parallel capacity improvements fall under the jurisdiction of Caltrans and the County. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**IMPACT 3.14-1n** Unacceptable LOS at the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21). *The signalized intersection of Sunrise Boulevard/U.S. 50 westbound ramps would have sufficient capacity to serve expected demands during the a.m. and p.m. peak traffic hours without project-related traffic. With traffic at full project buildout, operations during the p.m. peak hour are expected to degrade to LOS E, an unacceptable level within the City of Rancho Cordova.*

**Mitigation Measure 3.14-1n: Participate in Improvements to the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21).**

**PP, HD, IM** Improvements must be made to ensure that the Sunrise Boulevard/U.S. 50 westbound ramps intersection operates at an acceptable LOS. Specifically, the westbound approach would need to consist of three left-turn lanes and two right-turn lanes.

Improvements to this interchange are identified in the City’s CIP program.

An alternative to these improvements is to implement parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), Zinfandel Drive Extension, International Drive Extension into and through the Rio del Oro project site, and realignment of International Drive with Old Placerville Road (with associated roadway improvements). Implementing these alternative improvements would improve operations at and assist in reducing traffic impacts on this intersection.

Some of the improvements described above are identified in the *Mather Field Specific Plan Public Facilities Financing Plan* (Zinfandel Drive Extension) and the City's CIP. Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1n would reduce the significant impact on Intersection 21 to a less-than-significant level by improving intersection LOS under full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the City, as the lead agency, cannot guarantee implementation of this mitigation measure because the intersection is controlled by Caltrans. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-1o

Unacceptable LOS at the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22). *The signalized intersection of Sunrise Boulevard/Zinfandel Drive would operate at LOS F during the a.m. and p.m. peak traffic hours with project traffic both under development Phase 1 and at full project buildout. However, the addition of project traffic would also increase the V/C ratio by 0.05 or more during the a.m. and p.m. peak traffic hours.*

Mitigation Measure 3.14-1o: Participate in Improvements to the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22).

PP, HD, IM

Improvements must be made to ensure that the Sunrise Boulevard/Zinfandel Drive intersection operates at an acceptable LOS. Specifically, all of the following improvements should be made:

- ▶ Two left-turn lanes, three through lanes, and one shared through/right-turn lane should be added on the northbound approach.
- ▶ One left-turn lane, four through lanes, and one right-turn lane (with treatment to increase capacity such as a receiving lane or pork-chop island) should be added on the southbound approach. (A pork-chop island is a triangular island placed adjacent to a free right-turn lane. It separates right-turning vehicles from through lanes and provides a refuge for pedestrians to cross the right-turn lane before crossing the through lanes.)
- ▶ One left-turn lane, one through lane, and one right-turn lane should be added on the eastbound approach.
- ▶ One left-turn lane and one shared through/right-turn lane should be added on the westbound approach.

These at-grade improvements are consistent with the County Mobility Study; however, they would be inconsistent with the City's Circulation Element/Plan, which identifies the segment as a six-lane facility.

An alternative to this set of improvements that is consistent with the City’s Circulation Element/Plan is to implement grade separation at the intersection. Either improvement would increase capacity at this intersection and would assist in improving intersection operations.

Implementation of Mitigation Measure 3.14-1o would reduce the significant impact on Intersection 22 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the intersection widening, which would require Sunrise Boulevard to be expanded to eight lanes, is inconsistent with the City’s Circulation Element/Plan. The alternative improvement, grade separation of the intersection, is consistent with the City’s Circulation Element/Plan, but the required structure would likely have other significant impacts that have not been identified. Because one improvement is inconsistent with the City’s Circulation Element/Plan and the other has potential environmental impacts that have not been evaluated adequately, this impact would remain **significant and unavoidable**.

IMPACT 3.14-1p Unacceptable LOS at the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23). *Signalized intersection operations at Hazel Avenue/Folsom Boulevard would degrade from an acceptable LOS D during the p.m. peak traffic hour to LOS E both under development Phase 1 and at full project buildout.*

**Mitigation Measure 3.14-1p: Participate in Improvements to the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23).**

PP, HD, IM To ensure that the Hazel Avenue/Folsom Boulevard intersection operates at an acceptable LOS, the westbound approach must be reconfigured to consist of one left-turn lane, one through lane, and two right-turn lanes.

An alternative to this improvement that is consistent with the City’s Circulation Element/Plan is to implement parallel capacity improvements, such as Easton Valley Parkway and upgrades to White Rock Road.

Implementation of Mitigation Measure 3.14-1p would reduce the significant impact on Intersection 23 to a less-than-significant level by improving intersection LOS under full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, most of the identified improvements fall under the jurisdiction of the County. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT 3.14-1q Unacceptable LOS at the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24). *Signalized intersection operations at Hazel Avenue/U.S. 50 eastbound ramps would degrade from LOS E to LOS F during the p.m. peak traffic hour with project traffic both under development Phase 1 and at full project buildout.*

**Mitigation Measure 3.14-1q: Participate in Improvements to the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24).**

PP, HD, IM To ensure that the Hazel Avenue/U.S. 50 eastbound ramps intersection operates at an acceptable LOS, an additional eastbound left-turn lane must be installed, with an appropriate receiving lane. Improvements to this intersection must be coordinated with Caltrans and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1q would reduce the significant impact on Intersection 24 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, some of the identified improvements fall under the jurisdiction of Caltrans. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-1r** Unacceptable LOS at the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25). *Signalized intersection operations at Hazel Avenue/U.S. 50 westbound ramps would degrade from LOS D to LOS E during the p.m. peak traffic hour with the addition of project traffic, both under development Phase 1 and at full project buildout.*

**Mitigation Measure 3.14-1r: Participate in Improvements to the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25).**

PP, HD, IM To ensure that the Hazel Avenue/U.S. 50 westbound ramps intersection operates at an acceptable LOS, an additional westbound right-turn lane must be installed on the off-ramp. Improvements to this intersection must be coordinated with Caltrans, the County, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1r would reduce the significant impact on Intersection 25 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, some of the identified improvements fall under the jurisdiction of Caltrans and the County. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-1s** Unacceptable LOS at the Grant Line Road/White Rock Road Intersection (Intersection 26). *Unsignalized intersection operations at Grant Line Road/White Rock Road would degrade from an acceptable LOS C to an unacceptable LOS F during the a.m. peak traffic hour, and would continue to operate at LOS F during the p.m. peak traffic hour with the addition of project-related traffic, both under development Phase 1 and at full project buildout. The addition of project traffic during the p.m. peak traffic hour would increase control delay by more than 5.0 seconds.*

**Mitigation Measure 3.14-1s: Participate in Improvements to the Grant Line Road/White Rock Road Intersection (Intersection 26).**

PP, HD, IM To ensure that the Grant Line Road/White Rock Road intersection operates at an acceptable LOS, all of the following improvements are required:

- ▶ A traffic signal must be installed at this intersection.
- ▶ One through lane and one dedicated right-turn lane must be added on the southbound approach.

- ▶ One left-turn lane and one shared left/through/right-turn lane must be added on the eastbound approach.
- ▶ One left-turn lane and one through lane must be added on the northbound approach.

Improvements to this intersection must be coordinated with the County and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1p would reduce the significant impact on Intersection 26 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the identified improvements fall under the jurisdiction of the County. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-1t

Unacceptable LOS at the Kilgore Road/White Rock Road Intersection (Intersection 27). *Signalized intersection operations at Kilgore Road/White Rock Road would degrade from LOS D to LOS F during the a.m. peak traffic hour with project traffic both under development Phase 1 and at full project buildout. Although this intersection would operate at an unacceptable LOS F during the p.m. peak traffic hour both with and without project traffic, project traffic would also increase the V/C ratio by 0.05 or more.*

#### Mitigation Measure 3.14-1t: Participate in Improvements to the Kilgore Road/White Rock Road Intersection (Intersection 27).

PP, HD, IM To ensure that the Kilgore Road/White Rock Road intersection operates at an acceptable LOS with implementation of development Phase 1, all of the following improvements are required:

- ▶ A free right-turn lane must be added on the northbound approach with an associated receiving lane (which would require widening of the White Rock Road crossing of the Folsom South Canal).
- ▶ One through lane must be added on the eastbound approach.
- ▶ Two left-turn lanes must be provided on the westbound approach.

For buildout of the specific plan under the three development alternatives, the improvements described above are required. In addition, one left-turn lane, two through lanes, and one right-turn lane must be added to the southbound approach. Alternatively, International Drive could be extended into and through the Rio del Oro project site if desired, to provide parallel capacity to White Rock Road (see discussion of the International Drive realignment under “Impact Analysis” above and in Impact 3.14-5 below).

Although these required improvements would offset impacts associated with the project under buildout of the specific plan, this intersection would not operate acceptably. For this intersection to operate acceptably under buildout of all three development alternatives, International Drive would have to be extended into and through the project site in conjunction with the identified improvements.

The crossing of the Folsom South Canal must be coordinated with the U.S. Bureau of Reclamation and appropriate oversight agencies.

Implementation of Mitigation Measure 3.14-1t would reduce the significant impact on Intersection 27 to a less-than-significant level by improving intersection LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. The identified extension of International Drive into and through the project site would require crossing the Folsom South Canal, which would involve other regulatory agencies. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of this improvement because of the necessary crossing of the Folsom South Canal. Thus, this impact would remain **significant and unavoidable**. If the U.S. Bureau of Reclamation cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**IMPACT**  
**3.14-1u** Unacceptable LOS on Mather Boulevard between Femoyer Street and Douglas Road (Roadway Segment 4). *This roadway segment would degrade from an acceptable LOS E to an unacceptable LOS F with project-related traffic both under development Phase 1 and at full project buildout.*

**Mitigation Measure 3.14-1u: Participate in Improvements to Mather Boulevard between Femoyer Street and Douglas Road (Roadway Segment 4).**

**PP, HD, IM** To ensure that Mather Boulevard operates at an acceptable LOS between Femoyer Street and Douglas Road, Femoyer Street must be widened to four lanes between Mather Boulevard and the proposed Zinfandel Drive extension, and the future Zinfandel Drive extension must be constructed as a four-lane facility from Femoyer Street to Douglas Road. Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-1u would reduce the significant impact on Roadway Segment 4 to a less-than-significant level by improving LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the identified improvements fall under the jurisdiction of the County. Therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**IMPACT**  
**3.14-1v** Unacceptable LOS on Douglas Road between Mather Boulevard and Sunrise Boulevard (Roadway Segment 5). *This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic both under development Phase 1 and at full project buildout. However, project traffic would increase the V/C ratio by more than 0.05.*

**Mitigation Measure 3.14-1v: Participate in Improvements to Douglas Road between Mather Boulevard and Sunrise Boulevard (Roadway Segment 5).**

**PP, HD, IM** To ensure that Douglas Road operates at an acceptable LOS between Mather Boulevard and Sunrise Boulevard, Douglas Road must be widened to four lanes. Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-1v would reduce the significant impact on Roadway Segment 5 to a less-than-significant level by improving LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, the identified improvements fall under the jurisdiction of the County and other regulatory agencies because of the Folsom South Canal crossing. Therefore, neither the City nor the project applicant(s) would have control over

their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-1w** Unacceptable LOS on White Rock Road between Sunrise Boulevard and Grant Line Road (Roadway Segment 9). *This roadway segment would degrade from LOS A to an unacceptable LOS E with traffic from development Phase 1, and would degrade to an unacceptable LOS F with traffic at full project buildout.*

**Mitigation Measure 3.14-1w: Participate in Improvements to White Rock Road between Sunrise Boulevard and Grant Line Road (Roadway Segment 9).**

PP, HD, IM To ensure that White Rock Road operates at an acceptable LOS between Sunrise Boulevard and Grant Line Road, White Rock Road must be widened to four lanes. Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-1w would reduce the significant impact on Roadway Segment 9 to a less-than-significant level by improving LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. Although the majority of the roadway segment is within Rancho Cordova, the eastern portion of the roadway segment falls under the jurisdiction of the County. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of this improvement. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-1x** Unacceptable LOS on Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15). *This roadway segment would degrade from LOS E to LOS F with project-related traffic both under development Phase 1 and at full project buildout, and the V/C ratio would increase by more than 0.05.*

**Mitigation Measure 3.14-1x: Participate in Improvements to Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15).**

PP, HD, IM Improvements must be made to ensure that Zinfandel Drive operates at an acceptable LOS between the U.S. 50 eastbound ramps and White Rock Road; specifically, this roadway segment should be widened to eight lanes. This improvement would allow the segment to operate at an acceptable LOS; however, it is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.

An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), extension of International Drive into and through the project site, and connectivity between International Drive and Old Placerville Road.

Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-1x would reduce the significant impact on Roadway Segment 15 to a less-than-significant level by improving LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, widening the segment is inconsistent with the City's Circulation Element/Plan. Additionally, the alternative improvements, consisting of connecting International Drive between Bradshaw Road and the project site and implementation of Rancho Cordova Parkway (and its connection to U.S. 50), fall partially under the jurisdiction

of the County; therefore, neither the City nor the project applicant(s) can ensure their implementation. Given these conditions, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-1y

Unacceptable LOS on Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17). *This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. However, the addition of project traffic would also cause the V/C ratio to increase by more than 0.05.*

Mitigation Measure 3.14-1y: Participate in Improvements to Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17).

PP, HD, IM Improvements must be made to improve operations on Sunrise Boulevard between Gold Country Boulevard and Coloma Road; specifically, this roadway segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, although this improvement is consistent with the County Mobility Study, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Furthermore, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment.

Implementation of Mitigation Measure 3.14-1y would partially reduce the significant impact on Roadway Segment 17 by offsetting impacts from development Phase 1 (Proposed Project Alternative) and from full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, implementation of this measure would not reduce the impact to a less-than-significant level, for the following reasons:

- ▶ This improvement is inconsistent with the City’s Circulation Element/Plan.
- ▶ The potential for additional river crossings is limited. Any additional river crossings would require environmental review and would result in significant impacts on riparian vegetation. Additionally, implementing an additional river crossing would require acquisition of a significant number of existing homes, would have the potential to increase traffic volumes through residential neighborhoods, would require substantial funding, and would require cooperation of multiple agencies and jurisdictions. Additionally, neither the City nor the project applicant(s) would have control over mitigation implementation involving other jurisdictions (i.e., the County, Caltrans).
- ▶ The segment would continue to operate at an unacceptable LOS with the identified improvement.

For these reasons, the impact would remain **significant and unavoidable**.

IMPACT  
3.14-1z

Unacceptable LOS on Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18). *This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. However, the addition of project traffic would also cause the V/C ratio to increase by more than 0.05.*

**Mitigation Measure 3.14-1z: Participate in Improvements to Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18).**

PP, HD, IM Improvements must be made to improve operations on Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps; specifically, this roadway segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, although this improvement is consistent with the County Mobility Study, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Furthermore, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment.

Implementation of Mitigation Measure 3.14-1z would partially reduce the significant impact on Roadway Segment 18 by offsetting impacts from development Phase 1 (Proposed Project Alternative) and from full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, implementation of this measure would not reduce the impact to a less-than-significant level for the same reasons as identified for Impact 3.14-1y above. Therefore, this impact would remain **significant and unavoidable**.

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| IMPACT | Unacceptable LOS on Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom  
| 3.14-1aa | Boulevard (Roadway Segment 19). *This roadway segment would operate at an unacceptable LOS F both  
| | with and without project-related traffic, both under development Phase 1 and at full project buildout.  
| | However, the addition of project traffic would also cause the V/C ratio to increase by more than 0.05.*  
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**Mitigation Measure 3.14-1aa: Participate in Improvements to Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom Boulevard (Roadway Segment 19).**

PP, HD, IM Improvements must be made to improve operations on Sunrise Boulevard between the U.S. 50 eastbound ramps and Folsom Boulevard; specifically, this roadway segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, although this improvement is consistent with the County Mobility Study, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.

An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), which could improve operations on this segment and reduce the project’s impact.

Improvements to this roadway segment must be coordinated with Caltrans, Sacramento RT, and other potentially affected oversight agencies.

Implementation of Mitigation Measure 3.14-1aa would partially reduce the significant impact on Roadway Segment 19 by offsetting impacts from development Phase 1 (Proposed Project Alternative) and from full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, implementation of this measure would not reduce the impact to a less-than-significant level. The alternative improvement, implementation of Rancho Cordova Parkway (and its connection to U.S. 50), could further reduce volumes on this segment and would reduce the impact to a less-than-significant level.

The identified improvement is inconsistent with the City’s Circulation Element/Plan, and implementation of Rancho Cordova Parkway (and its connection to U.S. 50) falls under the jurisdiction of the County and Caltrans; therefore, neither the City nor the project applicant(s) can guarantee implementation of either the identified improvement or its alternative. Thus, this impact would remain **significant and unavoidable**. If Caltrans, Sacramento RT, the County, and other potentially affected agencies cooperate in allowing the improvements to

move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**Unacceptable LOS on Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20).** *This roadway segment would degrade from an unacceptable LOS E to LOS F, and the V/C ratio would increase by more than 0.05, with project-related traffic both under development Phase 1 and at full project buildout.*

**Mitigation Measure 3.14-1bb: Participate in Improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20).**

PP, HD, IM Improvements must be made to improve operations on Sunrise Boulevard between Folsom Boulevard and White Rock Road; specifically, this roadway segment should be widened to eight lanes. This improvement would offset the impacts of the project, but the segment would continue to operate at an unacceptable LOS. Additionally, this improvement is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.

An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), which could improve operations on this segment and reduce the project’s impact.

Improvements to this roadway segment must be coordinated with Caltrans and the County.

Implementation of Mitigation Measure 3.14-1bb would partially reduce the significant impact on Roadway Segment 20 by offsetting impacts from development Phase 1 (Proposed Project Alternative) and from full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, implementation of this measure would not reduce the impact to a less-than-significant level. The alternative improvement, implementation of Rancho Cordova Parkway (and its connection to U.S. 50), could further reduce volumes on this segment to a less-than-significant level.

The identified improvement is inconsistent with the City’s Circulation Element/Plan, and implementation of Rancho Cordova Parkway falls under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) can guarantee implementation of either the identified improvement or its alternative. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**Unacceptable LOS on Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21).** *This roadway segment would degrade from an acceptable LOS B to an unacceptable LOS F with project traffic both under development Phase 1 and at full project buildout.*

**Mitigation Measure 3.14-1cc: Participate in Improvements to Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21).**

PP, HD, IM Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS between White Rock Road and Douglas Road; specifically, this roadway segment should be widened to eight lanes. With this improvement, this segment would operate at an acceptable LOS for the Baseline Plus Phase 1 and Baseline Plus Full Project Buildout scenarios under all three development alternatives. However, this improvement is inconsistent with the City’s Circulation Element/Plan.

An alternative to this identified improvement is implementation of parallel capacity improvements, such as implementation of Rancho Cordova Parkway (and its connection to U.S. 50), which could improve operations on this segment and reduce the project's impact.

Improvements to this intersection must be coordinated with Caltrans and the County.

Implementation of Mitigation Measure 3.14-1cc would reduce the significant impact on Roadway Segment 21 to a less-than-significant level by improving LOS under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. The alternative improvement, implementation of Rancho Cordova Parkway (and its connection to U.S. 50), could further reduce volumes on this segment.

The identified improvement is inconsistent with the City's Circulation Element/Plan because City policy requires roadway cross sections to be a maximum of six lanes, and implementation of Rancho Cordova Parkway falls under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) can guarantee implementation of either the identified improvement or its alternative. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT 3.14-1dd Unacceptable LOS at Sunrise Boulevard between SR 16 and Grant Line Road (Roadway Segment 22). *This roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F with project-related traffic both under development Phase 1 and at full project buildout.*

Mitigation Measure 3.14-1dd: Participate in Improvements to Sunrise Boulevard between SR 16 and Grant Line Road (Roadway Segment 22).

PP, HD, IM To ensure that Sunrise Boulevard operates at an acceptable LOS between SR 16 and Grant Line Road, this roadway segment must be widened to four lanes. This improvement is included within the County's development fee program. If this improvement is implemented before development Phase 1 of the Rio del Oro project, then the project impact at this intersection would be reduced to a less-than-significant level.

Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-1dd would reduce the significant impact on Roadway Segment 22 to a less-than-significant level by providing acceptable operations under development Phase 1 (Proposed Project Alternative) and at full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, because the improvement falls under the jurisdiction of the County, neither the City nor the project applicant(s) can guarantee its implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT 3.14-1ee Unacceptable LOS at Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23). *This roadway segment would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. The addition of project traffic would exacerbate these unacceptable operations. Project traffic would also increase the V/C ratio by more than 0.05.*

**Mitigation Measure 3.14-1ee: Participate in Improvements to Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23).**

PP, HD, IM To improve operations on Hazel Avenue between Winding Way and the U.S. 50 westbound ramps, this roadway segment must be widened to six lanes. This improvement is included within the County’s development fee program and is expected to receive Measure A funding.

With the identified improvement, this segment would still operate at an unacceptable LOS for the Baseline Plus Phase 1 and Baseline Plus Full Project Buildout scenarios under all three development alternatives, but the improvement would offset the amount of traffic the project adds to the segment and would reduce the project impact to a less-than-significant level.

Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-1ee would reduce the significant impact on Roadway Segment 23 to a less-than-significant level by offsetting impacts from development Phase 1 (Proposed Project Alternative) and from full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives. However, because this improvement falls under the jurisdiction of the County, neither the City nor the project applicant(s) can guarantee its implementation. Thus, the impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

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| IMPACT |  
3.14-1ff

Unacceptable LOS at U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27), and between Sunrise Boulevard and Hazel Avenue (Freeway Segment 29). *These freeway segments would operate at an unacceptable LOS F both with and without project-related traffic, both under development Phase 1 and at full project buildout. The addition of project traffic would exacerbate these unacceptable operations.*

**Mitigation Measure 3.14-1ff: Participate in Improvements to U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27) and U.S. 50 between Sunrise Boulevard and Hazel Avenue (Freeway Segment 29).**

PP, HD, IM To ensure that U.S. 50 operates at an acceptable LOS between Mather Field Road and Zinfandel Drive and between Sunrise Boulevard and Hazel Avenue, the following improvements to the U.S. 50 corridor are required:

- ▶ Ramp metering must be added on the Mather Field Road and Zinfandel Drive eastbound on-ramps.
- ▶ An auxiliary lane must be constructed from Mather Field Road and Sunrise Boulevard.
- ▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.
- ▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.
- ▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, as an interim project, to Watt Avenue).

- ▶ HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.

Improvements to these freeway segments must be coordinated with Caltrans and the County.

Implementation of Mitigation Measure 3.14-1ff would reduce the significant impacts on Freeway Segments 27 and 29 to a less-than-significant level under the Proposed Project, Impact Minimization, and High Density Alternatives under development Phase 1 and at full project buildout.

The City’s CIP has identified some of the improvements identified above. Caltrans is conducting the U.S. 50 HOV Lane Project Plus Community Enhancement Project, which will evaluate the extension of eastbound and westbound HOV lanes on U.S. 50 to downtown Sacramento.

Several of the identified improvements fall under the jurisdiction of Caltrans or the County; therefore, neither the City nor the project applicant(s) can guarantee their implementation. Given these conditions, this impact remains **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT 3.14-1gg Unacceptable LOS at Douglas Road between Sunrise Boulevard and Jaeger Road (Roadway Segment 31). *This roadway segment would operate at an acceptable LOS A without the project and unacceptable LOS E with project-related traffic at full project buildout under the High Density Alternative.*

Mitigation Measure 3.14-1gg: Participate in Improvements to Douglas Road between Sunrise Boulevard and Jaeger Road (Roadway Segment 31).

HD To improve operations on Douglas Road between Sunrise Boulevard and Jaeger Road, this roadway segment must be widened to six lanes consistent with the City’s Circulation Element/Plan.

This improvement is included within the *SunRidge Specific Plan Public Facilities Financing Plan* and zoning conditions as well as the City’s CIP.

Implementation of Mitigation Measure 3.14-1gg would reduce the significant impact on Roadway Segment 23 to a **less-than-significant** level by providing acceptable operations under the High Density Alternative.

IMPACT 3.14-1hh Unacceptable LOS at Sunrise Boulevard between Douglas Road and Kiefer Boulevard (Roadway Segment 33). *This roadway segment would degrade from an acceptable LOS B to an unacceptable LOS E with project-related traffic under development Phase 1. Project-related traffic at full project buildout would cause the intersection to degrade to an unacceptable LOS F.*

Mitigation Measure 3.14-1hh: Participate in Improvements to Sunrise Boulevard between Douglas Road and Kiefer Boulevard (Roadway Segment 33).

PP, HD, IM To ensure that Sunrise Boulevard operates at an acceptable LOS between Douglas Road and Kiefer Boulevard, this roadway segment must be widened to six lanes consistent with the City’s Circulation Element/Plan and CIP.

Implementation of Mitigation Measure 3.14-1hh would reduce the significant impact on Roadway Segment 33 to a **less-than-significant** level by providing acceptable operating levels with traffic from development Phase 1 (Proposed Project Alternative) and from full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives.

IMPACT  
3.14-1ii

Unacceptable LOS at Sunrise Boulevard between Kiefer Boulevard and SR 16 (Roadway Segment 34). *This roadway segment would degrade from an acceptable LOS B to an unacceptable LOS E with project-related traffic under full project buildout.*

Mitigation Measure 3.14-1ii: Participate in Improvements to Sunrise Boulevard between Kiefer Boulevard and SR 16 (Roadway Segment 34).

PP, HD, IM To ensure that Sunrise Boulevard operates at an acceptable LOS between Kiefer Boulevard and SR 16, this roadway segment must be widened to six lanes consistent with the City's Circulation Element/Plan and CIP.

Implementation of Mitigation Measure 3.14-1ii would reduce the significant impact on Roadway Segment 34 to a **less-than-significant** level by providing acceptable operating levels with traffic from full project buildout under the Proposed Project, High Density, and Impact Minimization Alternatives.

IMPACT  
3.14-1jj

Unacceptable LOS at Various Merge and Diverge Segments of U.S. 50. *With the exception of the Mather Field Road loop on-ramp, merge, the following merge and diverge segments of U.S. 50 would operate at an unacceptable LOS F with and without project-related traffic under development Phase 1:*

- ▶ Eastbound U.S. 50
  - Mather Field Road direct off-ramp, diverge
  - Sunrise Boulevard direct off-ramp, diverge
  - Sunrise Boulevard loop/direct on-ramp, merge
- ▶ Westbound U.S. 50
  - Hazel Avenue direct off-ramp, diverge
  - Zinfandel Drive direct on-ramp, merge
  - Mather Field Road loop on-ramp, merge (would degrade from LOS D to LOS F)
  - Mather Field Road direct on-ramp, merge

The addition of project-related traffic at full buildout would cause the following level of operations at U.S. 50 merge and diverge segments:

- ▶ Eastbound U.S. 50
  - Mather Field Road direct off-ramp, diverge—LOS F with and without project traffic, both a.m. and p.m. peak traffic hours
  - Zinfandel Drive direct off-ramp, diverge—would degrade from LOS C to LOS F in the a.m. peak traffic hour under the Proposed Project and Impact Minimization Alternatives; would degrade from LOS C to LOS F in the a.m. and LOS B to LOS F in the p.m. peak traffic hour under the High Density Alternative
  - Sunrise Boulevard direct off-ramp, diverge—LOS F with and without project traffic during the p.m. peak traffic hour
  - Sunrise Boulevard loop/direct on-ramp, merge—would degrade from LOS E to LOS F with project traffic during the p.m. peak traffic hour

- ▶ Westbound U.S. 50
  - Hazel Avenue direct off-ramp, diverge—LOS F with and without project traffic during the a.m. peak traffic hour
  - Zinfandel Drive direct on-ramp, merge—LOS F with and without project traffic during both a.m. and p.m. peak traffic hours
  - Mather Field Road direct off-ramp, diverge—would degrade from LOS E to LOS F in both the a.m. and p.m. peak traffic hours under the Proposed Project Alternative; would degrade from LOS E to LOS F in the a.m. peak traffic hour under the High Density and Impact Minimization Alternatives
  - Mather Field Road loop on-ramp, merge—would degrade from LOS D to LOS F in the p.m. peak traffic hour with project traffic under all three development alternatives
  - Mather Field Road direct on-ramp, merge—would operate at LOS F in the a.m. and p.m. peak traffic hours with and without project traffic

**Mitigation Measure 3.14-1jj: Participate in Improvements to Various Merge and Diverge Segments of U.S. 50.**

PP, HD, IM To ensure that the U.S. 50 merge and diverge areas operate at an acceptable LOS, the following improvements to the U.S. 50 corridor are required:

- ▶ Ramp metering must be added on the Mather Field Road and Zinfandel Drive eastbound on-ramps.
- ▶ An auxiliary lane must be constructed from Mather Field Road and Sunrise Boulevard.
- ▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.
- ▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.
- ▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, as an interim project, to Watt Avenue).
- ▶ HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.

Improvements to these merge and diverge segments of U.S. 50 must be coordinated with Caltrans and the County.

Implementation of Mitigation Measure 3.14-1jj would reduce the significant impacts on U.S. 50 freeway merge/diverge/weave areas to a less-than-significant level under the Proposed Project, High Density, and Impact Minimization Alternatives under development Phase 1 and at full project buildout.

The City's CIP has identified some of the improvements identified above. Caltrans is conducting the U.S. 50 HOV Lane Project Plus Community Enhancement Project, which will evaluate the extension of eastbound and westbound HOV lanes on U.S. 50 to downtown Sacramento.

Several of the identified improvements fall under the jurisdiction of Caltrans or the County; therefore, neither the City nor the project applicant(s) can ensure that these improvements would be completed. Given these conditions, this impact remains **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT  
3.14-2**

**Increased Demand for Single-Occupant Automobile Travel in the Project Area.** *Project implementation would increase demand for single-occupant automobile travel on area roadways and intersections.*

PP, HD, IM

The project would add significant traffic to area roadways and intersections, increasing the demand for single-occupant automobile travel on area roadways and intersections under all three development alternatives. This increase is considered a **significant, direct** impact. **No indirect** impacts would occur.

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would have no impact on the surrounding roadway system.

Because no new development would occur under the No Project Alternative, no traffic would be generated and associated demand on area roadways would not result; thus, **no direct** or **indirect** impacts would occur.

**Mitigation Measure 3.14-2: Develop Commercial Support Services and Mixed-use Development Concurrent with Housing Development, and Develop and Provide Options for Alternative Transportation Modes.**

PP, HD, IM

The project applicant(s) for all project phases shall develop commercial and mixed-use development concurrent with housing development, to the extent feasible in light of market realities and other considerations, to internalize vehicle trips. Pedestrian and bicycle facilities shall be implemented to the satisfaction of the City Public Works Department. To further minimize impacts from the increased demand on area roadways and intersections, the project applicant(s) for all project phases shall develop and implement safe and secure bicycle parking at schools and commercial centers to promote alternative transportation uses and reduce the volume of single-occupancy vehicles using area roadways and intersections.

**Timing:** Before approval of improvement plans for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

NP

No mitigation measures are required.

Implementation of Mitigation Measure 3.14-2 would reduce the demand of the single-occupant vehicle on area roadways and intersections under the Proposed Action, High Density, and Impact Minimization Alternatives. Although the mitigation measure has the potential to substantially reduce the number of single-occupant vehicles, the project would continue to add single-occupant vehicles in the area and the impact would remain **significant and unavoidable**.

**IMPACT  
3.14-3**

**Increased Demand for Alternative Modes of Transportation.** *Implementation of the project would create demand for alternative transportation mode facilities such as buses, LRT, and carpools in Rancho Cordova.*

PP, HD, IM

The project includes a mix of residential densities, commercial uses, and pedestrian and bicycle facilities to promote options for movement beyond the use of motor vehicles. No LRT facilities are proposed as part of the specific plan. The project would create demand for alternative modes of transportation such as buses, LRT, and carpools in Rancho Cordova. This increased demand for alternative transportation modes is considered a **potentially significant, direct** impact. **No indirect** impacts would occur.

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would have limited impact on alternative modes of travel.

Because no project-related development would occur under the No Project Alternative, there would be no project-related demand on alternative modes of transportation; thus, **no direct or indirect** impacts would occur.

**Mitigation Measure 3.14-3a: Participate in Capital Improvements for Transit Service.**

PP, HD, IM

The project applicant(s) for all project phases shall participate in capital improvements for transit service. The project's fair-share participation and the associated timing of the improvements shall be identified in the project conditions of approval and/or the project's development agreement. Improvements shall be coordinated, as necessary, with Sacramento RT.

**Timing:** As a condition of project approval and/or as a condition of the development agreement for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

**Mitigation Measure 3.14-3b: Coordinate with the 50 Corridor Transportation Management Association and Comply with the City of Rancho Cordova Transportation System Management Ordinance.**

PP, HD, IM

The project applicant(s) for all project phases shall coordinate with the 50 Corridor Transportation Management Association and comply with the City of Rancho Cordova transportation system management ordinance.

**Timing:** Concurrent with construction for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

NP

No mitigation measures are required.

Implementation of Mitigation Measures 3.14-3a and 3.14-3b would promote usage of alternative transportation modes and increase the supply of these modes. However, because neither the City nor the project applicant(s) can guarantee implementation of increased transit service within Rancho Cordova, the impact would remain **significant and unavoidable** under the Proposed Action, High Density, and Impact Minimization Alternatives. If Sacramento RT cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT  
3.14-4**

**Inconsistency of the Rio del Oro Specific Plan with the City's Adopted General Plan.** *The proposed project is inconsistent with the City's adopted General Plan.*

PP, HD, IM

Rio del Oro Parkway and Villagio Parkway within the proposed specific plan area are shown, east of Rancho Cordova Parkway, as two-lane facilities. The City's adopted General Plan has identified these as four-lane facilities. Additionally, the proposed specific plan does not reflect the identified alignment of International Drive through the Rio del Oro project site. These inconsistencies are considered a **potentially significant, direct** impact. **No indirect** impacts would occur.

Rio del Oro Parkway and Villagio Parkway require four lanes only if connectivity through the Aerojet site occurs, as identified in the City's General Plan as occurring after Year 2030. Without this connectivity, two-lane facilities will suffice.

As part of the City's General Plan EIR, an analysis was conducted to identify impacts with various alignments of International Drive. The resulting shift in traffic volumes was summarized in a letter to the City dated June 19, 2006 (see Appendix J). The letter shows that the shift in volumes associated with the various alignments of International Drive would be minimal and that the shift in traffic volume is not projected to cause any new significant impacts.

**Mitigation Measure 3.14-4: Modify Rio del Oro Specific Plan to be Consistent with the City's Adopted General Plan.**

PP, HD, IM

The project applicant(s) for all project phases shall modify the Rio del Oro Specific Plan to be consistent with the City's General Plan.

**Timing:** As a condition of project approval and/or as a condition of the development agreement for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

Implementation of Mitigation Measure 3.14-4 would make the Rio del Oro Specific Plan consistent with the City's adopted General plan and would reduce the impact to a **less-than-significant** level.

**IMPACT  
3.14-5**

**Potential Impacts Associated with Alternative Land Uses within the Overflight Zone of the Rio del Oro Specific Plan Area.** *Land uses in the overflight zone were assumed to be industrial in nature. However, project implementation could result in alternative uses in this area, such as a sports field complex or amphitheater, which may create traffic impacts at greater intensities than the assumed industrial land uses.*

PP, HD, IM

Implementation of the project could result in designation of alternative land uses (i.e., sports field complex or amphitheatre) within the overflight zone. These land uses are inconsistent with land uses assumed in this evaluation. These land uses, may generate traffic at greater intensities than the assumed industrial land uses. This is considered a **potentially significant, direct** impact. **No indirect** impacts would occur.

**Mitigation Measure 3.14-5: Require Individual Transportation Impact Studies for Alternative Land Uses in the Overflight Zone and Implement All Identified Transportation Improvements.**

PP, HD, IM

As development occurs in the overflight zone, the project applicant(s) for any proposed alternative land use shall complete specific transportation impact studies to the satisfaction of the City's Public Works Department. Impacts shall be identified using methodologies adopted by the City or consistent with those identified in this DEIR/DEIS. Improvements identified as a result of the individual transportation impact studies shall be implemented by the project applicant(s) for

all project phases.

**Timing:** As development applications come forth for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

Implementation of Mitigation Measure 3.14-5 would require specific alternative development proposals within the overflight zone to be analyzed at a project-specific level and significant impacts to be identified with implementation of this development. Because the City does not yet have sufficient information to assess the project-specific transportation-related impacts of any alternative development scenarios, the City at present lacks information sufficient to determine whether implementation of this mitigation measure would reduce impacts to alternative land uses within the over-flight zone to a less-than-significant level. For this reason, the impact is considered **potentially significant and unavoidable**.

### Cumulative Impacts and Mitigation Measures

This section addresses impacts of the project under cumulative (2030) conditions. Impacts are identified when the project's incremental contribution is "cumulatively considerable" and thus is considered significant.

Cumulative effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), and NP (No Project). Note that all cumulative impacts of the High Density and Impact Minimization Alternatives would be similar to those of the Proposed Project Alternative, while those of the No Project Alternative would be less severe than those of the Proposed Project Alternative because significantly less development would occur. Note that all cumulative impacts of the NF Alternative (No Federal Action) would be inconsistent with the City General Plan Circulation Element/Plan. This alternative would result in greater impacts on transportation infrastructure outside the Rio del Oro Specific Plan area. No feasible mitigation measures are available to reduce impacts resulting from implementation of the NF Alternative to a less than significant level. Therefore, impacts under the NF Alternative would remain **significant and unavoidable**.

<b>IMPACT 3.14-6</b>
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**Potential Impacts Associated with the City's Transportation Impact Fee Program.** *The City of Rancho Cordova has a transportation impact fee program to implement roadway facilities (those identified in the City General Plan for implementation before Year 2030) within the city limits. However, currently this program is only 67% funded.*

PP, HD, IM,  
NP

The City's fee transportation impact fee program is not currently fully funded. Therefore, cumulative impacts identified below need additional funding (beyond the fee program) to mitigate the impacts until the fee program is fully funded. This is considered a **potentially significant, direct** impact.

#### Mitigation Measure 3.14-6: Pay Fair-Share Cost of Identified Improvements that Are Not Fully Funded by the City's Fee Program.

PP, HD, IM,  
NP

The project applicant(s) for all project phases shall provide fair-share contributions to the City's transportation impact fee program to aid in bridging the program's funding shortfall. However, ultimate funding of the improvements cannot be guaranteed (as it would require funding from other developments in the area).

**Timing:** As a condition of project approval and/or as a condition of the development agreement for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

Implementation of Mitigation Measure 3.14-6 requires project applicant(s) to make fair-share contributions toward bridging the funding shortfall from the City's fee program. However, because ultimate funding of the improvements cannot be guaranteed and the City cannot guarantee implementation of the identified measures, the impact would remain **significant and unavoidable**. If the City is able to ultimately fully fund the fee program through fair-share contributions or external funding sources, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT  
3.14-7**

**Increases to Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service, under Cumulative (2030) Conditions.** *Implementation of the project and other reasonably foreseeable development would cause an increase in a.m. peak traffic hour, p.m. peak traffic hour, and/or daily traffic volumes on area roadways, resulting in unacceptable LOS and warranting the need for improvements such as traffic signals and additional lanes under cumulative (2030) conditions.*

PP, HD, IM

Under all traffic-analysis scenarios that assume full project buildout under cumulative (2030) conditions (i.e., the Cumulative Plus Full Buildout scenario), project-related traffic under the Proposed Project, High Density, and Impact Minimization Alternatives would affect LOS at study-area intersections. Exhibits 3.14-12 and 3.14-13 present peak-hour traffic volumes, lane configurations, and traffic control under Cumulative No Project and Cumulative Plus Full Buildout conditions, respectively. Exhibit 3.14-14 compares ADT volumes under Cumulative No Project conditions with those under Cumulative Plus Full Buildout conditions. As shown in these exhibits, project implementation would cause an increase in a.m. peak-hour, p.m. peak-hour, and/or daily traffic volumes at study area intersections, roadway segments, and freeway ramps. Impacts associated with this increased traffic were compared against the thresholds of significance identified previously. For the sake of brevity, only intersections, roadways, and freeway ramps where direct, significant impacts would occur are discussed below, followed by required mitigation measures. There would be no indirect impacts in this context. Tables 3.14-13, 3.14-14, and 3.14-15 show intersections, roadway segments, and freeway ramps that would be affected by project implementation.

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These activities would not generate traffic that would affect the regional transportation system.

Because no project-related development would occur under the No Project Alternative, there would be no project-generated traffic that would affect the regional transportation system; thus, no direct or indirect impacts would occur.

**Mitigation Measure Common to All Impacts under Impact 3.14-7**

To avoid repetition, the information contained in the following mitigation measure applies to all other mitigation measures required under Impact 3.14-7. Note that no mitigation measures are required for the No Project Alternative because, as described above, no direct or indirect impacts would occur.

PP, HD, IM

The project applicant(s) for all project phases shall participate in the necessary improvements identified in all of the following mitigation measures. The project's fair-share participation and the associated timing of the improvements shall be identified in the project conditions of approval and in the mitigation monitoring and reporting program for the project or in conjunction with and as an appendix to the Rio del Oro Specific Plan (see mitigation measures following each identified impact).

The timing and enforcement (described below) would be the same for all identified mitigation measures associated with Impact 3.14-7.

**Timing:** As a condition of project approval and/or as a condition of the development agreement for all project phases.

**Enforcement:** City of Rancho Cordova Public Works Department.

Please note that the improvements described in each of the following mitigation measures have not been designed, and therefore, project-specific impacts as a result of these improvements cannot be precisely identified or quantified.

If need be, site-specific impacts of the identified improvements would be assessed pursuant to CEQA requirements when specific intersection and roadway improvement plans are developed, separate from the Rio del Oro DEIR/DEIS. Any such necessary environmental review would be completed before final approval of the improvements identified in the mitigation measures. No such additional review may be necessary, however, if the effects of such improvements are consistent with what can generally be expected of such improvements, as set forth immediately below.

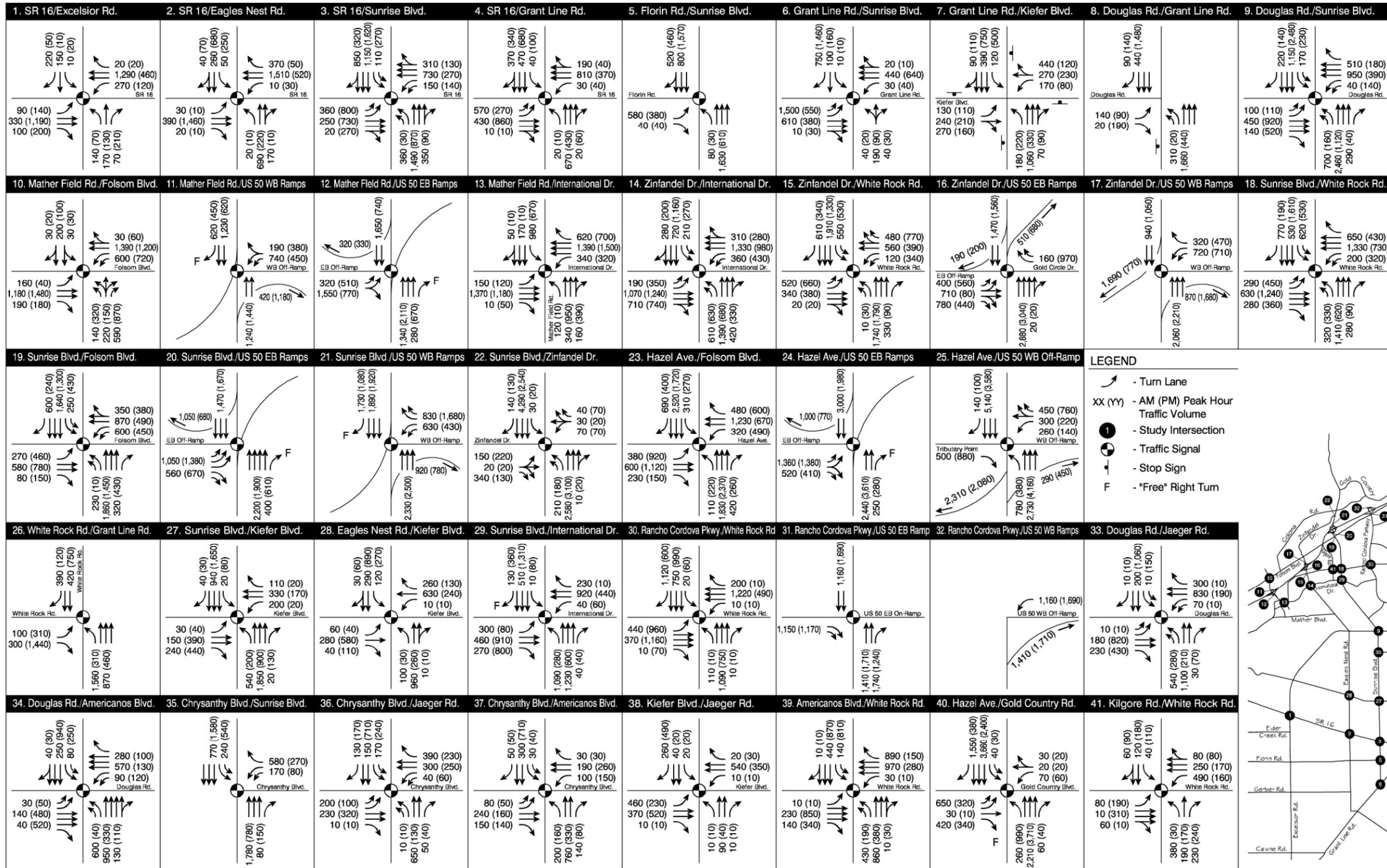
Based on review of existing available environmental documentation, field review at a reconnaissance level, and review of aerial photography, it is anticipated that, at worst, the construction of these intersection and roadway improvements could directly adversely affect wetland resources and associated grassland habitat area and could result in construction-related environmental effects, including but not limited to:

- ▶ impacts related to construction traffic, noise, air quality, water quality, and drainage;
- ▶ impacts on cultural resources; and
- ▶ impacts on special-status plants and animals and their habitats.

In addition to construction-related impacts, implementation of these improvements could result in long-term effects on water quality and drainage. The impacts that could arise from the planned improvements will be measured using the significance thresholds identified in each section of Chapter 3 of this DEIR/DEIS.

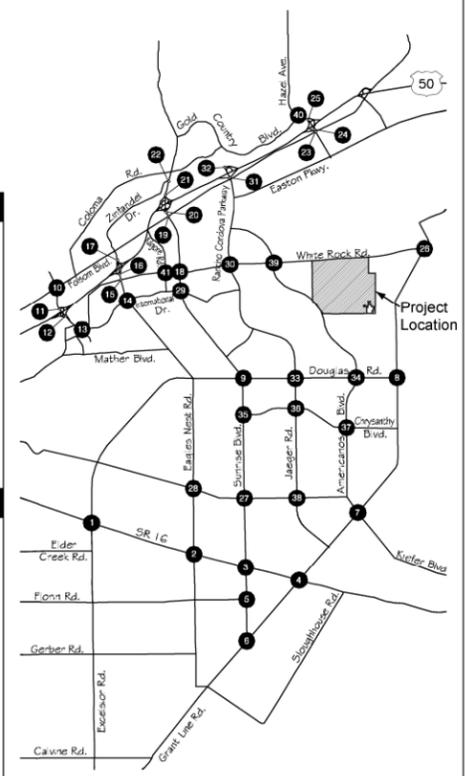
Once a planned roadway is designed, the City will retain a qualified biologist to conduct a reconnaissance survey to determine type(s) of habitat to be removed, and whether wetlands or special-status species are present. The City will also conduct a cultural resources records search to determine whether any known cultural resources are present.

The mitigation measures recommended in Chapter 3 of this DEIR/DEIS would be applied (where applicable) to mitigate any such effects, if significant, to less-than-significant levels. For example, measures will be implemented to ensure no net loss of wetlands. Best management practices and Sacramento Metropolitan Air Quality Management District measures will be implemented for water and air quality effects, and preconstruction surveys would be performed where sensitive habitat is present (and if special-status species or habitat is present, the biological resources protection measures would be implemented). The relocation of any utility pole or other utilities will be coordinated with the appropriate service provider to ensure that there would be no impact on the service provider. Additionally, if permits or other authorization are required, they will be secured and the conditions will be followed.



**LEGEND**

- Turn Lane
- XX (YY) - AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F - "Free" Right Turn



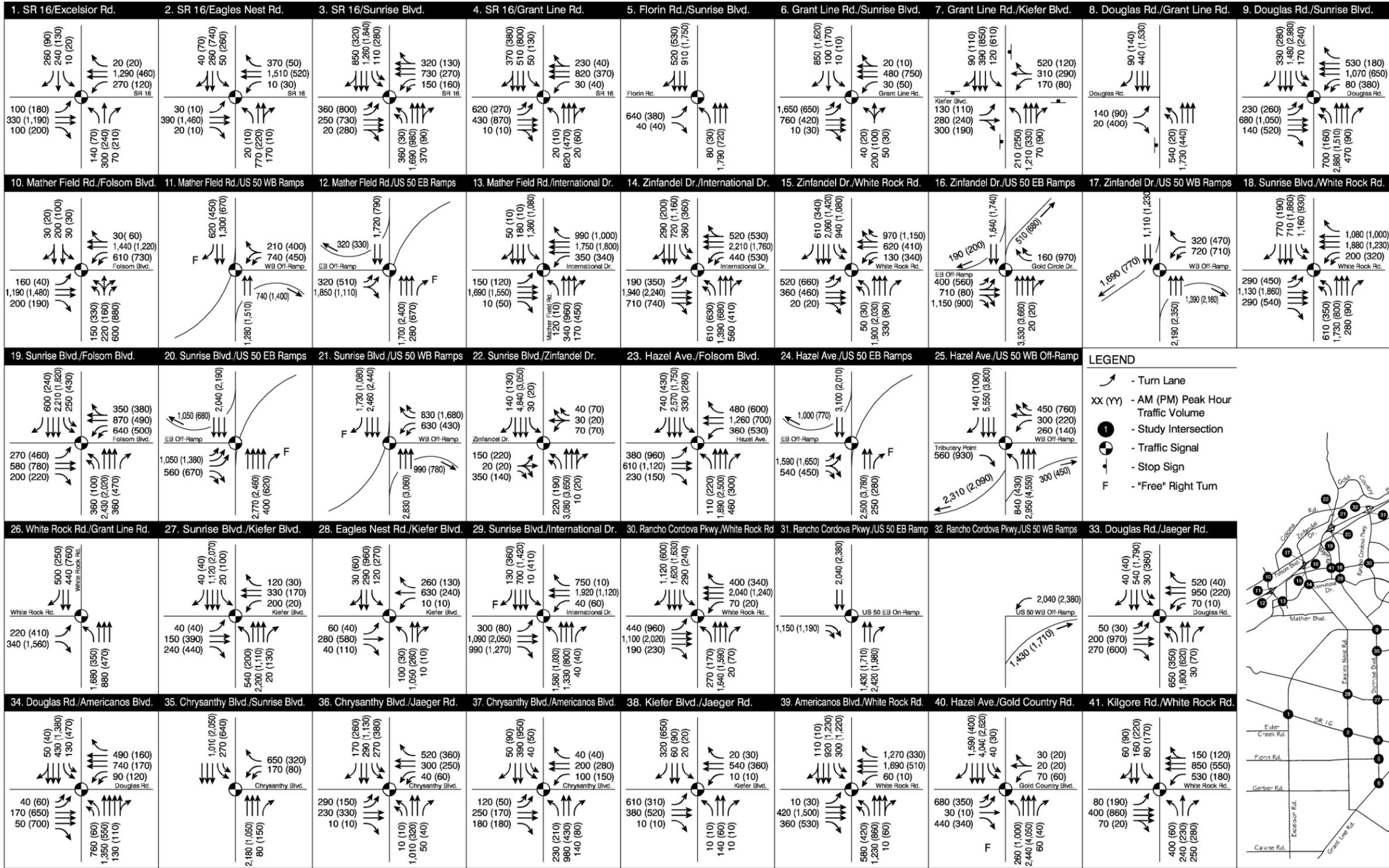
G 03110089.01 008

Source: Fehr & Peers 2006

Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control-Cumulative No Project Conditions

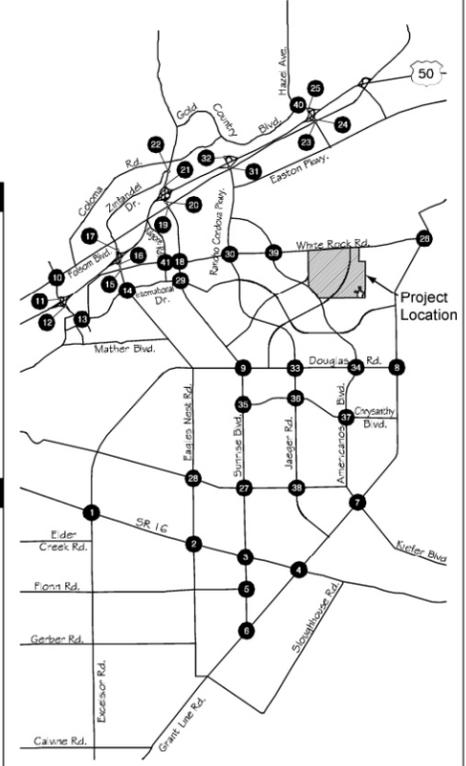
EXHIBIT 3.14-12





N  
NOT TO SCALE

- LEGEND**
- Turn Lane
  - XX (YY) - AM (PM) Peak Hour Traffic Volume
  - Study Intersection
  - Traffic Signal
  - Stop Sign
  - F - "Free" Right Turn



G 03110089.01 009

Source: Fehr & Peers 2006

Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control-Cumulative Plus Full Buildout Conditions

EXHIBIT 3.14-13



Table 3.14-13 Intersection Levels of Service—Cumulative (2030) Conditions																		
Intersection	Control	No Project Alternative				Proposed Project Alternative				High Density Alternative				Impact Minimization Alternative				
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		
		V/C or Delay <sup>1,2</sup>	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	
1. SR 16/Excelsior Road	Signalized	0.73	C	0.63	B	0.76	C	0.65	B	0.79	C	0.61	B	0.76	C	0.61	B	
2. SR 16/Eagles Nest Road	Signalized	0.84	D	0.76	C	0.87	D	0.78	C	<b>0.91</b>	<b>E</b>	0.77	C	0.84	D	0.76	C	
3. SR 16/Sunrise Boulevard	Signalized	1.06	F	0.82	D	1.06	F	0.87	D	1.06	F	0.88	D	<b>1.04</b>	<b>F</b>	0.85	D	
4. SR 16/Grant Line Road	Signalized	0.69	B	0.45	A	0.72	C	0.49	A	0.70	B	0.50	A	0.70	B	0.50	A	
5. Florin Road/Sunrise Boulevard	Signalized	0.76	C	0.70	C	0.80	D	0.79	C	0.83	D	0.78	C	0.78	C	0.75	C	
6. Grant Line Road/Sunrise Boulevard	Signalized	1.33	F	1.41	F	<b>1.48</b>	<b>F</b>	<b>1.59</b>	<b>F</b>	<b>1.42</b>	<b>F</b>	<b>1.62</b>	<b>F</b>	<b>1.49</b>	<b>F</b>	<b>1.61</b>	<b>F</b>	
7. Grant Line Road/Kiefer Boulevard	All-Way Stop	> 180	F	104	F	> 180	F	<b>1.67</b>	<b>F</b>	> 180	F	<b>151</b>	<b>F</b>	> 180	F	<b>153</b>	<b>F</b>	
8. Douglas Road/Grant Line Road	Side-Street Stop	> 180	F	>180	F	> 180	F	> 180	F	> 180	F	177	F	> 180	F	> 180	F	
9. Douglas Road/Sunrise Boulevard	Signalized	0.99	E	1.01	F	<b>1.14</b>	<b>F</b>	<b>1.21</b>	<b>F</b>	<b>1.08</b>	<b>F</b>	<b>1.24</b>	<b>F</b>	<b>1.18</b>	<b>F</b>	<b>1.24</b>	<b>F</b>	
10. Mather Field Road/Folsom Boulevard	Signalized	0.99	E	1.18	F	1.00	F	1.19	F	1.00	E	1.18	F	1.01	F	1.18	F	
11. Mather Field Road/U.S. 50 westbound ramps	Signalized	0.68	B	0.70	C	0.70	B	0.73	C	0.72	C	0.74	C	0.70	B	0.73	C	
12. Mather Field Road/U.S. 50 eastbound ramps	Signalized	1.02	F	0.71	C	<b>1.14</b>	<b>F</b>	0.86	D	<b>1.12</b>	<b>F</b>	0.86	D	<b>1.12</b>	<b>F</b>	0.85	D	
13. Mather Field Road/International Drive	Signalized	1.30	F	1.29	F	<b>1.78</b>	<b>F</b>	<b>1.78</b>	<b>F</b>	<b>1.71</b>	<b>F</b>	<b>1.66</b>	<b>F</b>	<b>1.66</b>	<b>F</b>	<b>1.73</b>	<b>F</b>	
14. Zinfandel Drive/International Drive	Signalized	1.09	F	1.18	F	<b>1.32</b>	<b>F</b>	<b>1.39</b>	<b>F</b>	<b>1.32</b>	<b>F</b>	<b>1.38</b>	<b>F</b>	<b>1.28</b>	<b>F</b>	<b>1.38</b>	<b>F</b>	
15. Zinfandel Drive/White Rock Road	Signalized	1.02	F	1.09	F	<b>1.33</b>	<b>F</b>	<b>1.36</b>	<b>F</b>	<b>1.32</b>	<b>F</b>	<b>1.42</b>	<b>F</b>	<b>1.29</b>	<b>F</b>	<b>1.36</b>	<b>F</b>	
16. Zinfandel Drive/U.S. 50 eastbound ramps	Signalized	0.89	D	1.05	F	<b>1.09</b>	<b>F</b>	<b>1.26</b>	<b>F</b>	<b>1.10</b>	<b>F</b>	<b>1.27</b>	<b>F</b>	<b>1.08</b>	<b>F</b>	<b>1.23</b>	<b>F</b>	
17. Zinfandel Drive/U.S. 50 westbound ramps	Signalized	0.66	B	0.73	C	0.68	B	0.76	D	0.73	C	0.73	C	0.67	B	0.75	C	
18. Sunrise Boulevard/White Rock Road	Signalized	1.17	F	0.93	E	<b>1.64</b>	<b>F</b>	<b>1.37</b>	<b>F</b>	<b>1.61</b>	<b>F</b>	<b>1.39</b>	<b>F</b>	<b>1.70</b>	<b>F</b>	<b>1.36</b>	<b>F</b>	
19. Sunrise Boulevard/Folsom Boulevard	Signalized	0.92	E	0.91	E	<b>1.06</b>	<b>F</b>	<b>1.05</b>	<b>F</b>	<b>1.06</b>	<b>F</b>	<b>1.06</b>	<b>F</b>	<b>1.06</b>	<b>F</b>	<b>1.06</b>	<b>F</b>	
20. Sunrise Boulevard/U.S. 50 eastbound ramps	Signalized	0.57	A	0.64	B	0.65	B	0.75	C	0.64	B	0.75	C	0.67	B	0.75	C	

Table 3.14-13 Intersection Levels of Service—Cumulative (2030) Conditions																		
Intersection	Control	No Project Alternative				Proposed Project Alternative				High Density Alternative				Impact Minimization Alternative				
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		
		V/C or Delay <sup>1,2</sup>	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	
21. Sunrise Boulevard/U.S. 50 westbound ramps	Signalized	0.75	C	1.07	F	0.85	D	<b>1.18</b>	<b>F</b>	0.85	D	<b>1.17</b>	<b>F</b>	0.85	D	<b>1.18</b>	<b>F</b>	
22. Sunrise Boulevard/Zinfandel Drive	Signalized	1.26	F	2.10	F	<b>1.39</b>	<b>F</b>	<b>2.22</b>	<b>F</b>	<b>1.39</b>	<b>F</b>	<b>2.21</b>	<b>F</b>	<b>1.39</b>	<b>F</b>	<b>2.22</b>	<b>F</b>	
23. Hazel Avenue/Folsom Boulevard <sup>3</sup>	Signalized	1.30	F	1.72	F	1.31	F	<b>1.78</b>	<b>F</b>	1.34	F	<b>1.81</b>	<b>F</b>	1.34	F	<b>1.85</b>	<b>F</b>	
24. Hazel Avenue/U.S. 50 eastbound ramps	Signalized	1.36	F	1.55	F	<b>1.47</b>	<b>F</b>	<b>1.70</b>	<b>F</b>	<b>1.48</b>	<b>F</b>	<b>1.69</b>	<b>F</b>	<b>1.46</b>	<b>F</b>	<b>1.68</b>	<b>F</b>	
25. Hazel Avenue/U.S. 50 westbound ramps	Signalized	1.87	F	1.43	F	<b>1.94</b>	<b>F</b>	<b>1.51</b>	<b>F</b>	<b>1.98</b>	<b>F</b>	<b>1.50</b>	<b>F</b>	<b>2.01</b>	<b>F</b>	<b>1.50</b>	<b>F</b>	
26. White Rock Road/Grant Line Road	Signalized	1.45	F	1.37	F	<b>1.63</b>	<b>F</b>	<b>1.48</b>	<b>F</b>	<b>1.68</b>	<b>F</b>	<b>1.47</b>	<b>F</b>	<b>1.67</b>	<b>F</b>	<b>1.48</b>	<b>F</b>	
27. Sunrise Boulevard/Kiefer Boulevard	Signalized	0.86	D	0.81	D	<b>0.90</b>	<b>E</b>	<b>0.90</b>	<b>E</b>	0.87	D	<b>0.90</b>	<b>E</b>	0.89	D	0.90	D	
28. Eagles Nest Road/Kiefer Boulevard	Signalized	0.86	D	0.71	C	0.89	D	0.73	C	0.87	D	0.68	B	<b>0.90</b>	<b>E</b>	0.76	C	
29. Sunrise Boulevard/International Drive	Signalized	1.35	F	1.05	F	<b>2.05</b>	<b>F</b>	<b>1.89</b>	<b>F</b>	<b>2.06</b>	<b>F</b>	<b>2.07</b>	<b>F</b>	<b>2.00</b>	<b>F</b>	<b>1.91</b>	<b>F</b>	
30. Rancho Cordova Parkway/White Rock Road	Signalized	1.38	F	1.16	F	<b>1.67</b>	<b>F</b>	<b>1.43</b>	<b>F</b>	<b>1.68</b>	<b>F</b>	<b>1.43</b>	<b>F</b>	<b>1.70</b>	<b>F</b>	<b>1.50</b>	<b>F</b>	
31. Rancho Cordova Parkway/U.S. 50 eastbound ramps	Signalized	0.86	D	0.96	E	<b>1.07</b>	<b>F</b>	<b>1.19</b>	<b>F</b>	<b>1.04</b>	<b>F</b>	<b>1.19</b>	<b>F</b>	<b>1.03</b>	<b>F</b>	<b>1.18</b>	<b>F</b>	
32. Rancho Cordova Parkway/U.S. 50 westbound ramps	Uncontrolled	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
33. Douglas Road/Jaeger Road	Signalized	0.45	A	0.63	B	0.78	C	<b>0.94</b>	<b>E</b>	0.80	D	<b>0.95</b>	<b>E</b>	0.79	C	0.86	D	
34. Douglas Road/Americanos Boulevard	Signalized	0.55	A	0.72	C	0.84	D	<b>0.99</b>	<b>E</b>	0.83	D	<b>0.97</b>	<b>E</b>	0.85	D	<b>0.96</b>	<b>E</b>	
35. Chrysanthy Boulevard/Sunrise Boulevard	Signalized	0.84	D	0.53	A	<b>0.98</b>	<b>E</b>	0.66	B	<b>1.01</b>	<b>F</b>	0.69	B	<b>1.01</b>	<b>F</b>	0.69	B	
36. Chrysanthy Boulevard/Jaeger Road	Signalized	0.61	B	0.43	A	0.89	D	0.68	B	0.89	D	0.67	B	0.87	D	0.66	B	
37. Chrysanthy Boulevard/Americanos Boulevard	Signalized	0.43	A	0.54	A	0.53	A	0.68	B	0.54	A	0.67	B	0.53	A	0.66	B	
38. Kiefer Boulevard/Jaeger Road	Signalized	0.67	B	0.60	B	0.81	D	0.77	C	0.79	C	0.70	B	0.79	C	0.74	C	
39. White Rock Road/Americanos Boulevard	Signalized	0.86	D	0.62	B	<b>1.30</b>	<b>F</b>	<b>1.01</b>	<b>F</b>	<b>1.29</b>	<b>F</b>	<b>1.02</b>	<b>F</b>	<b>1.25</b>	<b>F</b>	<b>0.98</b>	<b>E</b>	
40. Hazel Avenue/Gold Country Boulevard	Signalized	1.40	F	1.04	F	1.44	F	<b>1.10</b>	<b>F</b>	1.44	F	<b>1.10</b>	<b>F</b>	1.44	F	<b>1.10</b>	<b>F</b>	
41. White Rock Road/Kilgore Road	Signalized	0.65	B	0.42	A	0.80	C	0.62	B	0.80	C	0.62	B	0.80	C	0.62	B	

Notes:  
LOS = level of service; U.S. 50 = U.S. Highway 50; V/C = volume-to-capacity  
<sup>1</sup> V/C ratio is shown for signalized intersections. Delay is shown for unsignalized intersections.  
<sup>2</sup> Worst-case delay reported for unsignalized, side-street-stop intersections; average intersection delay reported for all-way-stop intersections. Both delays are reported in seconds per vehicle.  
<sup>3</sup> The project changes traffic distribution at this intersection such that traffic is added to noncritical movements (traffic is reduced at critical movements). Therefore, V/C of the critical movements decreases with the project.  
Shaded areas indicate deficiency. **Bold** indicates impact.  
Source: Data provided by Fehr & Peers in 2005

**Table 3.14-14  
Roadway Segment Levels of Service—Cumulative (2030) Conditions**

Roadway Segment	Lanes	No Project Alternative			Proposed Project Alternative			High Density Alternative			Impact Minimization Alternative		
		Vol	V/C	LOS	Vol	V/C	LOS	Vol	V/C	LOS	Vol	V/C	LOS
1. SR 16—Excelsior Road to Eagles Nest Road	4	19,200	0.53	A	19,200	0.53	A	18,900	0.53	A	18,800	0.52	A
2. SR 16—Sunrise Boulevard to Grant Line Road	4	19,700	0.55	A	19,900	0.55	A	19,900	0.55	A	19,900	0.55	A
3. Kiefer Boulevard—Grant Line Road to north of SR 16	2	13,300	0.78	E	15,300	0.90	E	15,300	0.90	E	15,200	0.89	E
4. Mather Boulevard—Femoyer Street to Douglas Road	4	19,600	0.54	A	20,800	0.58	A	20,700	0.58	A	20,600	0.57	A
5. Douglas Road—Mather Boulevard to Sunrise Boulevard	6	18,100	0.34	A	23,300	0.43	A	23,600	0.44	A	22,700	0.42	A
6. International Drive—South White Rock Road to Zinfandel Drive	6	53,900	0.67	C	<b>73,500</b>	<b>0.91</b>	<b>E</b>	<b>74,800</b>	<b>0.92</b>	<b>E</b>	<b>73,900</b>	<b>0.91</b>	<b>E</b>
7. International Drive—Zinfandel Drive to Kilgore Road	6	38,300	0.47	B	68,400	0.84	D	71,200	0.88	D	68,900	0.85	D
8. White Rock Road—Zinfandel Drive to Sunrise Boulevard	6	19,700	0.36	A	30,300	0.56	A	29,900	0.55	A	29,100	0.54	A
9. White Rock Road—Sunrise Boulevard to Grant Line Road	6	20,900	0.35	A	36,100	0.60	B	36,300	0.45	B	34,500	0.43	B
10. Folsom Boulevard—Zinfandel Drive to Sunrise Boulevard	4	23,700	0.66	B	24,400	0.68	B	24,500	0.68	B	24,400	0.68	B
11. Folsom Boulevard—Sunrise Boulevard to Hazel Avenue	4	19,700	0.55	A	20,000	0.56	A	20,000	0.56	A	20,000	0.56	A
12. Mather Field Road—Folsom Boulevard to U.S. 50 westbound ramps	4	31,200	0.87	D	<b>32,900</b>	<b>0.91</b>	<b>E</b>	<b>32,800</b>	<b>0.91</b>	<b>E</b>	<b>33,100</b>	<b>0.92</b>	<b>E</b>
13. Mather Field Road—U.S. 50 eastbound ramps to International Drive	6	52,500	0.97	E	<b>61,600</b>	<b>1.14</b>	<b>F</b>	<b>62,100</b>	<b>1.15</b>	<b>F</b>	<b>61,600</b>	<b>1.14</b>	<b>F</b>
14. Zinfandel Drive—Folsom Boulevard to U.S. 50 westbound ramps	4	22,000	0.61	B	23,700	0.66	B	23,800	0.66	B	23,700	0.66	B
15. Zinfandel Drive—U.S. 50 eastbound ramps to White Rock Road	6	64,000	1.19	F	<b>78,000</b>	<b>1.44</b>	<b>F</b>	<b>77,800</b>	<b>1.44</b>	<b>F</b>	<b>77,200</b>	<b>1.43</b>	<b>F</b>
16. Zinfandel Drive—White Rock Road to International Drive	6	42,400	0.26	A	46,100	0.45	B	46,500	0.86	D	46,500	0.86	D
17. Sunrise Boulevard—Gold Country Boulevard to Coloma Road	6	84,400	1.41	F	<b>95,300</b>	<b>1.59</b>	<b>F</b>	<b>95,100</b>	<b>1.59</b>	<b>F</b>	<b>94,900</b>	<b>1.58</b>	<b>F</b>
18. Sunrise Boulevard—Coloma Road to U.S. 50 westbound ramps	6	95,500	1.59	F	<b>108,700</b>	<b>1.81</b>	<b>F</b>	<b>108,800</b>	<b>1.81</b>	<b>F</b>	<b>108,400</b>	<b>1.81</b>	<b>F</b>
19. Sunrise Boulevard—U.S. 50 eastbound ramps to Folsom Boulevard	6	49,600	0.83	D	<b>63,000</b>	<b>1.05</b>	<b>F</b>	<b>63,800</b>	<b>1.06</b>	<b>F</b>	<b>62,600</b>	<b>1.04</b>	<b>F</b>
20. Sunrise Boulevard—Folsom Boulevard to White Rock Road	6	40,000	0.67	B	<b>55,800</b>	<b>0.93</b>	<b>E</b>	<b>57,000</b>	<b>0.95</b>	<b>E</b>	<b>55,400</b>	<b>0.92</b>	<b>E</b>
21. Sunrise Boulevard—White Rock Road to Douglas Road	6	33,700	0.62	B	44,900	0.83	D	46,600	0.86	D	44,300	0.82	D
22. Sunrise Boulevard—SR 16 to Grant Line Road	6	28,100	0.52	A	32,200	0.60	A	31,800	0.59	A	31,900	0.59	A
23. Hazel Avenue—Winding Way to U.S. 50 westbound ramps	6	90,100	1.50	F	<b>96,600</b>	<b>1.61</b>	<b>F</b>	<b>96,700</b>	<b>1.61</b>	<b>F</b>	<b>96,800</b>	<b>1.61</b>	<b>F</b>
24. Grant Line Road—White Rock Road to Douglas Road	6	26,700	0.33	B	27,500	0.34	B	27,300	0.34	B	28,100	0.35	B
25. Grant Line Road—Douglas Road to SR 16	6	21,200	0.26	A	21,600	0.27	A	21,500	0.27	A	21,800	0.27	A
26. Grant Line Road—SR 16 to Sunrise Boulevard	6	15,100	0.25	A	16,500	0.28	A	16,700	0.28	A	16,500	0.28	A

**Table 3.14-14  
Roadway Segment Levels of Service—Cumulative (2030) Conditions**

Roadway Segment	Lanes	No Project Alternative			Proposed Project Alternative			High Density Alternative			Impact Minimization Alternative		
		Vol	V/C	LOS	Vol	V/C	LOS	Vol	V/C	LOS	Vol	V/C	LOS
27. U.S. 50—Mather Field Road to Zinfandel Drive	8	169,100	1.06	F	<b>179,200</b>	<b>1.12</b>	<b>F</b>	<b>178,400</b>	<b>1.12</b>	<b>F</b>	<b>178,100</b>	<b>1.11</b>	<b>F</b>
28. U.S. 50—Zinfandel Drive to Sunrise Boulevard	8	163,700	1.02	F	163,700	1.02	F	163,400	1.02	F	163,300	1.02	F
29. U.S. 50—Sunrise Boulevard to Rancho Cordova Parkway	6	135,200	1.13	F	135,200	1.13	F	135,200	1.13	F	132,900	1.11	F
30. U.S. 50—Rancho Cordova Parkway to Hazel Avenue	6	147,200	1.23	F	<b>165,300</b>	<b>1.38</b>	<b>F</b>	<b>166,200</b>	<b>1.39</b>	<b>F</b>	<b>162,500</b>	<b>1.35</b>	<b>F</b>
31. U.S. 50—Hazel Avenue to Folsom Boulevard	6	114,900	0.96	E	<b>126,100</b>	<b>1.05</b>	<b>F</b>	<b>126,400</b>	<b>1.05</b>	<b>F</b>	<b>125,400</b>	<b>1.05</b>	<b>F</b>
32. Douglas Road—Sunrise Boulevard to Jaeger Road	6	22,500	0.42	A	27,300	0.51	A	28,100	0.52	A	26,200	0.49	A
33. Douglas Road—Americanos Boulevard to Grant Line Road	4	11,700	0.33	A	14,600	0.41	A	15,000	0.42	A	14,400	0.40	A
34. Douglas Road—Jaeger Road to Americanos Boulevard	6	11,500	0.21	A	14,600	0.27	A	15,100	0.28	A	14,200	0.26	A
35. Chrysanthy Boulevard—Sunrise Boulevard to Jaeger Road	4	8,400	0.23	A	9,600	0.27	A	9,800	0.27	A	9,700	0.27	A
36. Chrysanthy Boulevard—Jaeger Road to Americanos Boulevard	4	13,100	0.36	A	16,200	0.45	A	16,500	0.46	A	16,000	0.44	A
37. Kiefer Boulevard—Eagles Nest Road to Sunrise Boulevard	2	17,000	0.94	E	17,100	0.95	E	17,000	0.94	E	17,000	0.94	E
38. Kiefer Boulevard—Sunrise Boulevard to Jaeger Road	4	9,100	0.25	A	9,300	0.26	A	9,500	0.26	A	9,700	0.27	A
39. Eagles Nest Road (Zinfandel Drive)—Mather Boulevard to Douglas Road	6	34,800	0.64	B	36,100	0.67	B	35,800	0.66	B	35,900	0.66	B
40. Eagles Nest Road—Douglas Road to Kiefer Boulevard	4	14,000	0.39	A	14,400	0.40	A	14,200	0.39	A	14,300	0.40	A
41. Eagles Nest Road—Kiefer Boulevard to SR 16	4	9,400	0.26	A	9,700	0.27	A	9,300	0.26	A	9,600	0.27	A
42. Sunrise Boulevard—Douglas Road to Chrysanthy Boulevard	6	47,000	0.87	D	<b>59,400</b>	<b>1.10</b>	<b>F</b>	<b>60,100</b>	<b>1.11</b>	<b>F</b>	<b>59,800</b>	<b>1.11</b>	<b>F</b>
43. Sunrise Boulevard—Chrysanthy Boulevard to Kiefer Boulevard	6	35,000	0.65	B	43,700	0.81	D	44,200	0.82	D	44,000	0.81	D
44. Sunrise Boulevard—Kiefer Boulevard to SR 16	6	40,700	0.61	C	47,200	0.84	D	47,300	0.85	D	46,900	0.84	D
45. Rancho Cordova Parkway—U.S. 50 to Easton Valley Parkway	6	49,600	0.50	C	67,800	0.79	D	68,900	0.80	D	67,700	0.79	D
46. Rancho Cordova Parkway—Easton Valley Parkway to White Rock Road	6	40,600	0.68	B	<b>63,900</b>	<b>1.07</b>	<b>F</b>	<b>64,400</b>	<b>1.07</b>	<b>F</b>	<b>64,000</b>	<b>1.07</b>	<b>F</b>
47. Rancho Cordova Parkway—White Rock Road to Douglas Road	6	23,000	0.43	A	47,300	0.88	D	<b>50,100</b>	<b>0.93</b>	<b>E</b>	<b>49,800</b>	<b>0.92</b>	<b>E</b>
48. Jaeger Road—Douglas Road to Chrysanthy Boulevard	6	19,800	0.37	A	35,100	0.65	B	36,200	0.67	B	33,600	0.62	B
49. Jaeger Road—Chrysanthy Boulevard to Kiefer Boulevard	4	9,900	0.28	A	15,400	0.43	A	15,700	0.44	A	14,900	0.41	A
50. Americanos Boulevard—White Rock Road to Douglas Road	4	18,100	0.50	A	30,400	0.84	D	<b>32,900</b>	<b>0.91</b>	<b>E</b>	30,900	0.86	D
51. Americanos Boulevard—Douglas Road to Chrysanthy Boulevard	4	15,600	0.43	A	21,800	0.61	B	21,800	0.61	B	21,800	0.61	B
52. Excelsior Road—North of SR 16	2	7,800	0.43	A	10,400	0.58	A	10,400	0.58	A	10,200	0.57	A
53. SR 16—West of Excelsior Road	6	18,800	0.31	A	19,000	0.32	A	18,300	0.31	A	18,400	0.31	A

Notes:  
 SR = State Route; U.S. 50 = U.S. Highway 50; V/C = volume-to-capacity  
 Shaded areas indicate deficiency. Bold indicates impact.  
 Source: Data provided by Fehr & Peers in 2005

**Table 3.14-15  
Merge/Diverge/Weave Levels of Service—Cumulative Conditions**

Ramps	Merge, Diverge, or Weave?	No Project Alternative		Specific Plan Buildout				High Density Alternative				Impact Minimization Alternative					
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Density <sup>1</sup>	LOS <sup>2</sup>	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
<b>Eastbound U.S. 50</b>																	
Mather Field Road direct off-ramp	Diverge	46	F	38	E	50	F	42	F	50	F	43	F	50	F	42	F
Mather Field Road loop on-ramp	Merge	23	C	21	C	24	C	22	C	24	C	22	C	24	C	22	C
Mather Field Road direct on-ramp	Merge	23	C	21	C	23	C	22	C	24	C	22	C	23	C	22	C
Zinfandel Drive direct off-ramp	Diverge	23	C	16	B	26	C	20	B	26	C	20	C	26	C	19	B
Zinfandel Drive loop on-ramp	Merge	22	C	23	C	22	C	23	C	22	C	23	C	22	C	23	C
Zinfandel Drive direct on-ramp	Merge	22	C	23	C	22	C	23	C	23	C	23	C	22	C	23	C
Sunrise Boulevard direct off-ramp	Diverge	25	C	30	F	25	C	30	F	26	C	30	F	25	C	29	F
Sunrise Boulevard loop/direct on-ramp	Merge	38	F	37	F	38	F	37	F	38	F	37	F	38	F	37	F
Rancho Cordova Parkway direct off-ramp <sup>3</sup>	Diverge	39	E	39	E	39	E	39	E	39	E	39	E	39	E	39	E
Rancho Cordova Parkway direct on-ramp <sup>3</sup>	Merge	43	F	39	F	48	F	44	F	49	F	44	F	48	F	44	F
Hazel Avenue direct off-ramp	Diverge	29	F	26.0	C	32	F	30	F	33	F	30	F	33	F	31	F
Hazel Avenue loop/direct on-ramp	Weave	NA	E	NA	D	NA	E	NA	D	NA	E	NA	D	NA	E	NA	D
Aerojet direct off-ramp																	
<b>Westbound U.S. 50</b>																	
Hazel Avenue direct off-ramp	Diverge	47	F	53	F	54	F	58	F	54	F	58	F	55	F	59	F
Hazel Avenue loop on-ramp	Merge	38	E	45	F	45	F	49	F	45	F	50	F	46	F	49	F
Rancho Cordova Parkway direct off-ramp <sup>3</sup>	Diverge	29	E	42	F	44	F	46	F	44	F	46	F	44	F	46	F
Rancho Cordova Parkway loop on-ramp <sup>3</sup>	Merge	39	F	42	F	39	F	42	F	39	F	41	F	39	F	42	F
Sunrise Boulevard direct off-ramp	Diverge	27	C	32	F	27	C	32	F	27	C	32	F	27	C	32	F
Zinfandel Drive direct off-ramp	Diverge	38	E	35	E	39	E	35	E	38	E	35	D	39	E	35	E
Zinfandel Drive loop on-ramp	Merge	30	D	28	C	31	D	28	D	30	D	29	D	31	D	28	D
Zinfandel Drive direct on-ramp	Merge	38	F	36	F	40	F	38	F	39	F	39	F	40	F	38	F
Mather Field Road direct off-ramp	Diverge	42	F	37	E	44	F	38	E	44	F	39	E	45	F	38	E
Mather Field Road loop on-ramp	Merge	34	D	30	D	36	F	31	D	36	F	32	D	36	F	31	D
Mather Field Road direct on-ramp	Merge	43	F	41	F	47	F	44	F	46	F	44	F	47	F	43	F
Notes: LOS = level of service; NA = not applicable; NA = not applicable; U.S. 50 = U.S. Highway 50 <sup>1</sup> Density in passenger cars per mile per lane for merge/diverge analysis only. <sup>2</sup> LOS computed using Highway Capacity Software (HCS) 2000 software for the merge/diverge analysis consistent with Highway Capacity Manual (HCM) 2000 methodologies. Weave analysis evaluated using the Leisch Method for Weaving Analysis. <sup>3</sup> Rancho Cordova Parkway interchange assumed to have similar geometrics to nearby interchanges. One lane assumed on all ramps (a conservative assumption). Shaded areas indicate deficiency where calculation indicates demand exceeds capacity. Source: Data provided by Fehr & Peers in 2005																	

For improvements to the following intersections and roadway improvements, the following impacts (in addition to the above) could result from implementation of required improvements:

- ▶ Direct impacts on LRT service in the area—Sunrise Boulevard/Folsom Boulevard (Intersection 19)
- ▶ Direct impacts from required grade separation structure—Sunrise Boulevard/Zinfandel Drive and Hazel Avenue/Folsom Boulevard intersections (Intersections 22 and 23, respectively)
- ▶ Direct impacts on the Folsom South Canal—Eagles Nest Road/Kiefer Boulevard and Sunrise Boulevard/International Drive intersections (Intersections 28 and 29, respectively)
- ▶ Direct impacts from required new river crossings of the American River—Sunrise Boulevard between Gold Country Boulevard and Coloma Road and Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps (Roadway Segments 17 and 18, respectively)
- ▶ Direct impacts from potential removal of approximately 80 utility poles, 60 street lights, approximately 50 large trees, and commercial/industrial property, resulting from improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20)
- ▶ Direct impacts from potential removal of approximately 60 utility poles, 100 street lights, approximately 40 large trees (primarily oak and landscaped trees), and commercial/industrial property, resulting from improvements to Sunrise Boulevard between White Rock Road and Douglas Road (Roadway Segment 21).

NP No mitigation measures are required.

The following impacts and mitigation measures apply only to those intersections, roadways, and freeway ramps where significant, direct impacts would occur. Summary impacts are followed by required mitigation measures. Note that no mitigation measures are required for Impacts 3.14-7a through 3.14-7pp under the No Project Alternative. As stated above in the summary discussion of Impact 3.14-7, under this alternative there would be no project-related traffic that would affect the regional transportation system; therefore, there would be no cumulative impacts under the No Project Alternative.

<p>IMPACT 3.14-7a</p>	<p><b>Unacceptable LOS at the SR 16/Eagles Nest Road Intersection (Intersection 2) under Cumulative (2030) Conditions.</b> <i>This signalized intersection would operate at an acceptable level during both the a.m. and p.m. peak traffic hours with traffic from the Proposed Project, Impact Minimization, and No Project Alternatives under cumulative (2030) conditions. However, operations would degrade from an acceptable LOS D to an unacceptable LOS E during the a.m. peak traffic hour with traffic from the High Density Alternative.</i></p>
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**Mitigation Measure 3.14-7a: Participate in Improvements to the SR 16/Eagles Nest Road Intersection (Intersection 2).**

HD To ensure that the SR 16/Eagles Nest Road intersection operates at an acceptable LOS D or better, the northbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and one dedicated right-turn lane.

Improvements to the SR 16/Eagles Nest Road intersection are contained within the *SunRidge Specific Plan Public Facilities Financing Plan* and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/SunRidge Specific Plan Project state that physical improvement of this intersection is feasible. Implementation of these improvements would reduce traffic impacts on this intersection.

Improvements to this intersection must be coordinated with Caltrans and the County.

PP, IM, NP No mitigation measures are required.

Implementation of Mitigation Measure 3.14-7a would reduce the significant impact on Intersection 2 from the High Density Alternative under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS D or better. However, the identified improvements fall under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7b

Unacceptable LOS at the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project-related traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.*

Mitigation Measure 3.14-7b: Participate in Improvements to the Grant Line Road/Sunrise Boulevard Intersection (Intersection 6).

PP, HD, IM To ensure that the Grant Line Road/Sunrise Boulevard intersection operates at an acceptable LOS D or better, all of the following improvements are required:

- ▶ The northbound approach must be reconfigured to consist of one left-turn lane and a shared through/right-turn lane.
- ▶ The southbound approach must be reconfigured to consist of one left-turn lane, one through lane, and two right-turn lanes with overlap right-turn signal phase.
- ▶ The eastbound approach must be reconfigured to consist of two left-turn lanes, two through lanes, and a shared through/right-turn lane.
- ▶ The westbound approach must be reconfigured to consist of one left-turn lane, two through lanes, and a shared through/right-turn lane.

Interim improvements to the Grant Line Road/Sunrise Boulevard intersection are contained within the Elk Grove West Vineyard Plan, with ultimate improvements contained within the *Vineyard Springs Comprehensive Plan Public Financing Plan*. These intersection improvements must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7b would reduce the significant impact on Intersection 6 under the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, these identified improvements fall under the jurisdiction of the County; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7c

Unacceptable LOS at the Grant Line Road/Kiefer Boulevard Intersection (Intersection 7) under Cumulative (2030) Conditions. *This unsignalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase delay at this intersection by more than 5 seconds during the a.m. and p.m. peak traffic hours.*

Mitigation Measure 3.14-7c: Participate in Improvements to the Grant Line Road/Kiefer Boulevard Intersection (Intersection 7).

PP, HD, IM To ensure that the Grant Line Road/Kiefer Boulevard intersection operates at an acceptable LOS D or better, all of the following improvements are required:

- ▶ A traffic signal must be installed at this intersection. The southbound approach must be reconfigured to consist of one left-turn lane, three through lanes, and one dedicated right-turn lane.
- ▶ The eastbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one dedicated right-turn lane.
- ▶ The westbound approach must be reconfigured to consist of one left-turn lane, one through lane, and one right-turn lane.

Improvements to this intersection must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7c would reduce the significant impact on Intersection 7 under the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, portions of this intersection fall under the jurisdiction of the County; therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of all of the identified improvements. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7d

Unacceptable LOS at the Grant Line Road/Douglas Road Intersection (Intersection 8) under Cumulative (2030) Conditions. *This unsignalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase delay on the worst-case approach by more than 5 seconds during the a.m. and p.m. peak traffic hours.*

Mitigation Measure 3.14-7d: Participate in Improvements to the Grant Line Road/Douglas Road Intersection (Intersection 8).

PP, HD, IM To ensure that the Grant Line Road/Douglas Road intersection operates at an acceptable LOS D or better, a traffic signal must be installed at this intersection. Improvements to this intersection are contained within the *SunRidge Specific Plan Public Financing Plan*.

Implementation of Mitigation Measure 3.14-7d would reduce the significant impact on Intersection 8 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a **less-than-significant** level, by allowing this intersection to operate at an acceptable LOS D or better.

IMPACT  
3.14-7e

Unacceptable LOS at the Sunrise Boulevard/Douglas Road Intersection (Intersection 9) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with and without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.*

**Mitigation Measure 3.14-7e: Participate in Improvements to the Sunrise Boulevard/Douglas Road Intersection (Intersection 9).**

PP, HD, IM To improve LOS at the Sunrise Boulevard/Douglas Road intersection, all approaches must be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane.

However, even with these improvements, this intersection would continue to operate at an unacceptable LOS. For this intersection to operate at an acceptable LOS, additional roadway connectivity is required. To achieve this connectivity, the Kiefer Boulevard Extension between Rancho Cordova and Sacramento must be implemented. Additional intersection improvements could be implemented consistent with the City’s Circulation Element/Plan, including partial grade separation of the intersection and/or aggressive at-grade treatments such as triple left-turn lanes, enhanced-capacity right-turn treatments, or conversion into a continuous-flow intersection.

Improvements to this intersection are contained within the *SunRidge Specific Plan Public Financing Plan*, but this public financing plan would not be able to fund all of the improvements described above. These intersection improvements must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7e would partially reduce the significant impact on Intersection 9 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions. However, implementation of this measure would not reduce the impact to a less-than-significant level. For the intersection to operate at an acceptable LOS D or better and to completely offset the impacts of the project, additional improvements (consistent with the City’s Circulation Element/Plan and CIP) are required. However, the required additional connectivity on Kiefer Boulevard between Rancho Cordova and Sacramento falls under the jurisdiction of the County; therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of this improvement. The feasibility of the aggressive at-grade or partial grade-separated alternatives, such as partial grade separation, capacity-enhancing right-turn treatments, or implementation of a continuous-flow intersection, has not been determined as no specific designs have been developed and environmental constraints have not been identified. Given these conditions, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT 3.14-7f Unacceptable LOS at the Mather Field Road/U.S. 50 Eastbound Ramps Intersection (Intersection 12) under Cumulative (2030) Conditions. *Operations at this signalized intersection would degrade from LOS E to LOS F, and the V/C ratio at this intersection would increase by 0.05 or more during the a.m. peak traffic hour, with the addition of project traffic under cumulative (2030) conditions. During the p.m. peak traffic hour, project traffic would cause intersection operations to degrade from an acceptable LOS D to an unacceptable LOS E.*

**Mitigation Measure 3.14-7f: Participate in Improvements to the Mather Field Road/U.S. 50 Eastbound Ramps Intersection (Intersection 12).**

PP, HD, IM To ensure that the Mather Field Road/U.S. 50 eastbound ramps intersection operates at an acceptable LOS D or better, the eastbound approach must be reconfigured to include an additional right-turn lane. Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP, and must be coordinated with Caltrans.

Implementation of Mitigation Measure 3.14-7f would reduce the significant impact on Intersection 12 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS D or better. However, the required improvement to U.S. 50 falls under the jurisdiction of Caltrans; therefore, neither the City nor the project

applicant(s) would have control over the timing or implementation of this improvement. Thus, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-7g** Unacceptable LOS at Mather Field Road/International Drive (Intersection 13) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with and without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.*

**Mitigation Measure 3.14-7g: Participate in Improvements at the Mather Field Road/International Drive Intersection (Intersection 13).**

PP, HD, IM Southbound left-turn and westbound right-turn volumes at the Mather Field Road/International Drive intersection are substantial enough that additional lanes at this intersection would not reduce impacts at the intersection; therefore, the intersection would continue to operate at an unacceptable LOS E or LOS F. However, additional roadway connectivity in the area, through measures such as implementation of the Kiefer Boulevard Extension to Sacramento, extension of Routier Road to the south, completion of the International Drive–Old Placerville Road connection, and construction of the potential tunnel under Mather Field, has the potential to shift traffic volumes to reduce traffic impacts at the intersection. These additional roadway connectivity measures are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of these improvements would assist in reducing traffic impacts on this intersection by providing acceptable operations.

Improvements to this intersection must be coordinated with the County and other regulatory agencies because of the proximity of some of these improvements to Mather Field.

Implementation of Mitigation Measure 3.14-7g would reduce the significant impact on Intersection 13 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level. The identified roadway connectivity improvements (consistent with the City’s Circulation Element/Plan and CIP) would shift traffic volumes and reduce traffic impacts at the intersection. However, the Kiefer Boulevard Extension and International Drive–Old Placerville Road connection fall under the jurisdiction of the County, and the Routier Road extension and tunnel construction under Mather Field would require coordination with other regulatory agencies because of their proximity to the airstrip. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of all the identified improvements.

Given these conditions, this impact would remain **significant and unavoidable**. If the County and other responsible agencies (such as the Federal Aviation Administration [FAA]) cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-7h** Unacceptable LOS at the Zinfandel Drive/International Drive Intersection (Intersection 14) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.*

**Mitigation Measure 3.14-7h: Participate in Improvements to the Zinfandel Drive/International Drive Intersection (Intersection 14).**

PP, HD, IM Improvements must be made to improve LOS at the Zinfandel Drive/International Drive intersection. Specifically, this intersection should be reconfigured to provide three left-turn lanes, four through lanes, and one right-turn lane. Additionally, capacity enhancement is needed for the eastbound right-turn movement.

These improvements would reduce the cumulative impact caused by the proposed project and alternatives under consideration by providing acceptable LOS. However, widening International Drive to four through lanes is inconsistent with the City’s Circulation Element/Plan because City policy requires roadway cross sections of six lanes or fewer.

To be consistent with the City’s Circulation Element/Plan, aggressive at-grade improvements are required, such as partial grade separation, capacity-enhancing right-turn treatments on all approaches, or implementation of a continuous-flow intersection. Additionally, improved roadway connectivity, such as the extension of Kiefer Boulevard, International Drive–Old Placerville Road connection, and/or construction of the tunnel under Mather Field would shift traffic volumes and reduce traffic at the intersection.

The additional roadway connections described above and aggressive at-grade intersection treatments are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of these improvements would assist in reducing traffic impacts on this intersection by providing acceptable operations.

Improvements to this intersection must be coordinated with the County and other regulatory agencies (such as FAA) because of the proximity of some of these improvements to Mather Field.

Implementation of Mitigation Measure 3.14-7h would reduce the significant impact on Intersection 14 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level. However, the Kiefer Boulevard Extension and International Drive–Old Placerville Road connection fall under the jurisdiction of the County, and the Routier Road extension and tunnel construction under Mather Field would require coordination with the FAA and other regulatory agencies because of their proximity to the airstrip. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of all the identified improvements.

Given these conditions, this impact would remain **significant and unavoidable**. If FAA and other regulatory agencies cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term, assuming the improvements are determined to be feasible.



**IMPACT 3.14-7i** Unacceptable LOS at the Zinfandel Drive/White Rock Road Intersection (Intersection 15) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.*

**Mitigation Measure 3.14-7i: Participate in Improvements to the Zinfandel Drive/White Rock Road Intersection (Intersection 15).**

PP, HD, IM Improvements required to provide acceptable LOS at the Zinfandel Drive/White Rock Road intersection consist of three left-turn lanes, four through lanes, and one right-turn lane on all approaches; and capacity enhancement treatments on the westbound right-turn movement.

Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of the identified improvements would assist in reducing traffic impacts on this intersection by providing acceptable LOS. However, these improvements include widening the facility to more than six lanes, which is inconsistent with the City’s General Element/Plan. Alternatively, partial grade separation could be implemented consistent with the City’s Circulation Element/Plan and CIP; however, aggressive at-grade treatments such as partial grade separation have not been designed, and they could have geometric and/or environmental constraints that may make the treatments infeasible.

Implementation of Mitigation Measure 3.14-7i would partially reduce the significant impact on Intersection 15 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions and reduce the impact to a less-than-significant level. However, because one improvement is inconsistent with the City’s General Element/Plan, and the other (partial grade separation) has not been designed, the improvements may be infeasible as a result of consistency, geometric, and/or environmental constraints. Therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of all the identified improvements.

Given these conditions, this impact would remain **significant and unavoidable**. If the other regulatory agencies cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term, assuming that the improvements are determined to be feasible.



**IMPACT 3.14-7j** Unacceptable LOS at the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16) under Cumulative (2030) Conditions. *This signalized intersection would operate at an acceptable LOS D during the a.m. peak traffic hour and an unacceptable LOS F during the p.m. peak traffic hour without the project under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05 and degrade a.m. peak-hour operations to an unacceptable LOS F.*

**Mitigation Measure 3.14-7j: Participate in Improvements to the Zinfandel Drive/U.S. 50 Eastbound Ramps Intersection (Intersection 16).**

PP, HD, IM To ensure that the Zinfandel Drive/U.S. 50 eastbound ramps intersection operates at an acceptable LOS D or better, the following improvements are required:

- ▶ The northbound approach must be reconfigured to consist of four through lanes and a shared through/right-turn lane.
- ▶ The southbound approach must be reconfigured to consist of three through lanes and a free right-turn lane.
- ▶ The eastbound approach must be reconfigured to consist of three left-turn lanes, two through lanes, and a free right-turn lane.
- ▶ The westbound approach must be reconfigured to consist of three right-turn lanes.

Improvements to this intersection are identified in the City’s Circulation Element/Plan and included in the City’s CIP. Implementation of these improvements would assist in reducing traffic impacts on this intersection by providing acceptable operation. Intersection improvements must be coordinated with Caltrans.

Implementation of Mitigation Measure 3.14-7j would reduce the significant impact on Intersection 16 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a

less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, the identified improvements fall under the jurisdiction of Caltrans; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7k

Unacceptable LOS at the Sunrise Boulevard/White Rock Road Intersection (Intersection 18) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F and LOS E during the a.m. and p.m. peak traffic hours, respectively, with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.*

Mitigation Measure 3.14-7k: Participate in Improvements to the Sunrise Boulevard/White Rock Road Intersection (Intersection 18).

PP, HD, IM To ensure that the Sunrise Boulevard/White Rock Road intersection operates at an acceptable LOS, grade separation must be implemented at this intersection.

Some funding for intersection improvements to this intersection is identified in the *Mather Field Specific Plan Public Financing Plan (Zinfandel Drive Extension)*, and grade separation of the intersection is in the City's Circulation Element/Plan and included in the City's CIP. The grade separation treatment has not been designed, however, and it could have geometric and/or environmental constraints that may make the treatment infeasible. No other feasible improvements are available at this intersection to ensure that it operates at an acceptable level.

Implementation of Mitigation Measure 3.14-7k would reduce the significant impact on Intersection 18 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, because the feasibility of grade separation at this location has not been determined, these identified improvements may not be feasible. No other feasible improvements are available at this intersection to ensure acceptable operations; therefore, this impact would remain **significant and unavoidable**. If the grade separation treatment is determined to be feasible, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7l

Unacceptable LOS at the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19) under Cumulative (2030) Conditions. *Operations at this signalized intersection would be an unacceptable LOS F during the a.m. peak traffic hour and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at the intersection by 0.05 or more.*

Mitigation Measure 3.14-7l: Participate in Improvements to the Sunrise Boulevard/Folsom Boulevard Intersection (Intersection 19).

PP, HD, IM Improvements must be made to ensure that the Sunrise Boulevard/Folsom Boulevard intersection operates at an acceptable LOS D or better. Specifically, all of the following improvements should be made:

- ▶ The northbound approach should be reconfigured to consist of three left-turn lanes, four through lanes, and one right-turn lane.
- ▶ The southbound approach should be reconfigured to consist of three left-turn lanes, four through lanes, and one right-turn lane.

- ▶ The eastbound approach should be reconfigured to consist of two left-turn lanes, two through lanes, and one right-turn lane.
- ▶ The westbound approach should be reconfigured to consist of two left-turn lanes, one through lane, one through/right-turn lane, and one right-turn lane.

These improvements would provide acceptable operations at this intersection. However, the identified improvements may be infeasible because of geometric constraints at this intersection caused by the grade-separated LRT tracks. These improvements must be coordinated with Sacramento RT.

Implementation of Mitigation Measure 3.14-7l would reduce significant impacts on Intersection 19 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, the intersection widening may not be possible because of geometric constraints associated with the grade-separated LRT tracks; therefore, this improvement may not be feasible. No other feasible improvements are available, and there is no assurance that the required improvements would be implemented.

Given these conditions, this impact would remain **significant and unavoidable**. If Sacramento RT cooperates in permitting the improvements, and the improvements are determined to be feasible, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



Unacceptable LOS at the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21) under Cumulative (2030) Conditions. *Operations at this signalized intersection would be an unacceptable LOS F during the p.m. peak traffic hours with or without project traffic. The project would increase the V/C ratio by 0.05 or more.*

**Mitigation Measure 3.14-7m: Participate in Improvements to the Sunrise Boulevard/U.S. 50 Westbound Ramps Intersection (Intersection 21).**

PP, HD, IM To ensure that the Sunrise Boulevard/U.S. 50 westbound ramps intersection operates at an acceptable LOS D or better, the northbound and southbound approaches must be reconfigured to consist of three through lanes and one free (uncontrolled) right-turn lane; and the westbound approach must be reconfigured to consist of two left-turn lanes and a free right-turn lane with an adequate receiving lane on Sunrise Boulevard. Improvements to this intersection must be coordinated with Caltrans.

Implementation of Mitigation Measure 3.14-7m would reduce significant impacts on Intersection 21 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, the identified improvements fall under the jurisdiction of Caltrans; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



Unacceptable LOS at the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.*

Mitigation Measure 3.14-7n: Participate in Improvements to the Sunrise Boulevard/Zinfandel Drive Intersection (Intersection 22).

PP, HD, IM Improvements must be made to ensure that the Sunrise Boulevard/Zinfandel Drive intersection operates at an acceptable LOS; specifically, the northbound and southbound approaches should be reconfigured to consist of an additional through lane. These at-grade improvements are consistent with the County Mobility Study; however, they would be inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes or fewer.

An alternative to this improvement that is consistent with the City’s Circulation Element/Plan and associated CIP is implementation of grade separation at this intersection.

Implementation of Mitigation Measure 3.14-7n would reduce the significant impact on Intersection 22 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, the intersection widening, which would require Sunrise Boulevard to be expanded to eight lanes, is inconsistent with the City’s Circulation Element/Plan. The alternative improvement, grade separation of the intersection, is consistent with the City’s Circulation Element/Plan. Because the grade-separation treatment has not been designed, it could have geometric and/or environmental constraints that may make the treatment infeasible. Therefore, because one improvement is inconsistent with the City’s Circulation Element/Plan and the other may be infeasible, this impact would remain **significant and unavoidable**. If the grade separation alternative were deemed feasible, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



Unacceptable LOS at the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.*

Mitigation Measure 3.14-7o: Participate in Improvements to the Hazel Avenue/Folsom Boulevard Intersection (Intersection 23).

PP, HD, IM For the Hazel Avenue/Folsom Boulevard intersection to operate at an acceptable LOS D or better, grade separation of the intersection is required. This improvement is consistent with the City’s Circulation Element/Plan; however, the grade-separation treatment has not been designed, and it could have geometric and/or environmental constraints that may make the treatment infeasible.

Improvements to this intersection must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7o would reduce the significant impact on Intersection 22 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level. However, the feasibility of grade separation at this location has not been determined. Because the improvement may have as-yet-unknown potentially significant impacts, and because this intersection falls under the jurisdiction of the County, neither the City nor the project applicant(s) would have control over the timing or implementation of the improvement necessary to provide acceptable operations at the intersection. Thus, the impact would remain **significant and unavoidable**. If the County cooperates in permitting the identified improvements and they are determined to be feasible, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7p

Unacceptable LOS at the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.*

Mitigation Measure 3.14-7p: Participate in Improvements to the Hazel Avenue/U.S. 50 Eastbound Ramps Intersection (Intersection 24).

PP, HD, IM To ensure that the Hazel Avenue/U.S. 50 eastbound ramps intersection operates at an acceptable LOS D, all of the following improvements are required at this interchange:

- ▶ The structure across U.S. 50 must be widened to accommodate eight lanes (four in each direction) on the structure.
- ▶ The eastbound off-ramp approach must be reconfigured to consist of three left-turn lanes, a shared left/right-turn lane, and one right turn lane.

Improvements to this interchange must be coordinated with Caltrans and the County.

Implementation of Mitigation Measure 3.14-7p would reduce the significant impact on Intersection 24 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS D. However, because the identified improvements fall under the jurisdiction of Caltrans and the County, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, the impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7q

Unacceptable LOS at the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.*

Mitigation Measure 3.14-7q: Participate in Improvements to the Hazel Avenue/U.S. 50 Westbound Ramps Intersection (Intersection 25).

PP, HD, IM Substantial improvements must be made to ensure that the Hazel Avenue/U.S. 50 westbound ramps intersection operates at an acceptable LOS D or better. Specifically, the following improvements should be made:

- ▶ The northbound approach should be reconfigured to consist of four through lanes and a free right-turn lane (this would require prohibiting northbound left turns to Tributary Point Drive).
- ▶ The southbound approach should be reconfigured to consist of five through lanes and a free right-turn lane.
- ▶ The eastbound approach should be reconfigured to consist of one free right-turn lane.
- ▶ The westbound approach should be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.

However, these improvements would prohibit northbound access to development west of the intersection and may be deemed infeasible in that access must be maintained.

Improvements to this intersection must be coordinated with Caltrans and the County.

Implementation of Mitigation Measure 3.14-7q would reduce the significant impact on Intersection 24 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, because the identified improvements fall under the jurisdiction of Caltrans and the County, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, the impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



Unacceptable LOS at the Grant Line Road/White Rock Road Intersection (Intersection 26) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection during the a.m. and p.m. peak traffic hours by more than 0.05.*

**Mitigation Measure 3.14-7r: Participate in Improvements to the Grant Line Road/White Rock Road Intersection (Intersection 26).**

PP, HD, IM To ensure that the Grant Line Road/White Rock Road intersection operates at an acceptable LOS D or better, all of the following improvements are required:

- ▶ The northbound approach must be reconfigured to consist of three left-turn lanes and three through lanes.
- ▶ The southbound approach must be reconfigured to consist of two through lanes and two right-turn lanes.
- ▶ The eastbound approach must be reconfigured to consist of two left-turn lanes and one free (uncontrolled) right-turn lane.

Improvements to this intersection must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7r would reduce the significant impact on Intersection 26 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, because the identified improvements fall under the jurisdiction of the County, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, the impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



Unacceptable LOS at the Sunrise Boulevard/Kiefer Boulevard Intersection (Intersection 27) under Cumulative (2030) Conditions. *Operations at this signalized intersection would degrade from an acceptable LOS D to an unacceptable LOS E during the a.m. peak traffic hour with project traffic from the Proposed Project Alternative under cumulative (2030) conditions. Operations would degrade to an unacceptable LOS E during the p.m. peak traffic hour under the Proposed Project and High Density Alternatives.*

**Mitigation Measure 3.14-7s: Participate in Improvements to the Sunrise Boulevard/Kiefer Boulevard Intersection (Intersection 27).**

PP, HD To ensure that the Sunrise Boulevard/Kiefer Boulevard intersection operates at an acceptable LOS D or better, the northbound and southbound approaches must be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane.

Implementation of Mitigation Measure 3.14-7s would reduce significant impacts on Intersection 27 from the Proposed Project and High Density Alternatives under cumulative (2030) conditions to a **less-than-significant** level, by allowing this intersection to operate at an acceptable LOS D or better.

IMPACT Unacceptable LOS at the Eagles Nest Road/Kiefer Boulevard Intersection (Intersection 28) under  
3.14-7t Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS E during the a.m. peak traffic hour with project traffic from the Impact Minimization Alternative. Without project traffic, the intersection would operate acceptably under cumulative (2030) conditions.*

**Mitigation Measure 3.14-7t: Participate in Improvements to the Eagles Nest Road/Kiefer Boulevard Intersection (Intersection 28).**

IM To ensure that the Eagles Nest Road/Kiefer Boulevard intersection operates at an acceptable LOS D or better, all approaches must be reconfigured to consist of one left-turn lane, two through lanes, and one right-turn lane.

Implementation of Mitigation Measure 3.14-7t would reduce the significant impact on Intersection 28 from the Impact Minimization Alternative under cumulative (2030) conditions to a **less-than-significant** level, by allowing this intersection to operate at an acceptable LOS D or better.

IMPACT Unacceptable LOS at the Sunrise Boulevard/International Drive Intersection (Intersection 29) under  
3.14-7u Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05.*

**Mitigation Measure 3.14-7u: Participate in Improvements to the Sunrise Boulevard/International Drive Intersection (Intersection 29).**

PP, HD, IM To improve LOS at the Sunrise Boulevard/International Drive intersection, the intersection must be reconfigured to consist of three left-turn lanes, three through lanes, and two right-turn lanes. However, even with these improvements, this intersection would operate at an unacceptable LOS. To further improve operations and to fully reduce the impact, aggressive at-grade improvements (such as implementation of a continuous-flow intersection) or partial grade separation is required, consistent with the City's Circulation Element/Plan and associated CIP.

Implementation of Mitigation Measure 3.14-7u would partially reduce the significant impact on Intersection 29 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions. However, implementation of this measure would not reduce the impact to a less-than-significant level. For this intersection to operate at an acceptable LOS and to fully reduce this impact to a less-than-significant level, at-grade or partial grade separation is required. Because the aggressive at-grade treatments have not been designed, they could have geometric and/or environmental constraints that may make the treatments infeasible. Because the feasibility of improvements necessary to fully reduce this impact to a less-than-significant level is unknown, this impact would remain **significant and unavoidable**. If the aggressive at-grade treatments are determined to be feasible, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7v

Unacceptable LOS at the Rancho Cordova Parkway/White Rock Road Intersection (Intersection 30) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with or without project traffic under cumulative (2030) conditions. However, project traffic would increase the V/C ratio at this intersection by more than 0.05.*

Mitigation Measure 3.14-7v: Participate in Improvements to the Rancho Cordova Parkway/White Rock Road Intersection (Intersection 30).

PP, HD, IM To improve operations at the Rancho Cordova Parkway/White Rock Road intersection, all of the following improvements are required:

- ▶ The northbound and southbound approaches must be reconfigured to consist of three left-turn lanes, three through lanes, and one right-turn lane.
- ▶ The southbound approach must be reconfigured to include a free right-turn lane.
- ▶ The eastbound and westbound approaches must be reconfigured to consist of three left-turn lanes, four through lanes, and a right-turn lane.

However, these improvements are inconsistent with the City’s General Element/Plan. Alternatively, aggressive at-grade improvements (such as implementation of a continuous-flow intersection) or partial grade separation, consistent with the City’s Circulation Element/Plan and associated CIP, could be implemented.

Implementation of Mitigation Measure 3.14-7v would reduce the significant impact on Intersection 30 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. Because the aggressive at-grade treatments have not been designed, they could have geometric and/or environmental constraints that may make the treatments infeasible. Because the feasibility of improvements necessary to fully reduce this impact to a less-than-significant level is unknown, this impact remains **significant and unavoidable**. If the aggressive at-grade treatments are determined to be feasible, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7w

Unacceptable LOS at the Rancho Cordova Parkway/U.S. 50 Eastbound Ramps Intersection (Intersection 31) under Cumulative (2030) Conditions. *This signalized intersection would operate at an acceptable LOS D during the a.m. peak traffic hours and LOS F during the p.m. peak traffic hours without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio at this intersection by more than 0.05, and would degrade a.m. operations to an unacceptable LOS F.*

Mitigation Measure 3.14-7w: Participate in Improvements to the Rancho Cordova Parkway/U.S. 50 Eastbound Ramps Intersection (Intersection 31).

PP, HD, IM To ensure that the Rancho Cordova Parkway/U.S. 50 eastbound ramps intersection operates at an acceptable LOS, all of the following improvements are required:

- ▶ The northbound approach must be reconfigured to consist of two “free” right-turn lanes and two through lanes.
- ▶ The southbound approach must be reconfigured to consist of one left-turn lane and two through lanes.

- ▶ The eastbound approach must be reconfigured to consist of one shared through/left-turn lane and two “free” right-turn lanes.

Improvements to this intersection must be coordinated with Caltrans.

Implementation of Mitigation Measure 3.14-7w would reduce the significant impact on Intersection 31 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS D or better. However, the interchange has not been designed, and because there are geometric constraints associated with U.S. 50, Folsom Boulevard, the LRT tracks, and the Folsom South Canal, these improvements may be infeasible. Additionally, the identified improvements fall under the jurisdiction of Caltrans; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation.

Given these conditions, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



Unacceptable LOS at the Douglas Road/Jaeger Road Intersection (Intersection 33) under Cumulative (2030) Conditions. *Operations at this signalized intersection would degrade from an acceptable LOS to an unacceptable LOS E during the p.m. peak traffic hour with project traffic from the Proposed Project and High Density Alternatives under cumulative (2030) conditions.*

**Mitigation Measure 3.14-7x: Participate in Improvements to the Douglas Road/Jaeger Road Intersection (Intersection 33).**

PP, HD Improvements must be made to ensure that the Douglas Road/Jaeger Road intersection operates at an acceptable LOS. Specifically, all of the following improvements should be made:

- ▶ The northbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and a right-turn lane.
- ▶ The southbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and a right-turn lane.
- ▶ The eastbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane with right-turn capacity enhancement (such as a pork-chop island or right-turn green arrow concurrent with the southbound left-turn phase).
- ▶ The westbound approach should be reconfigured to consist of two left-turn lanes, three through lanes, and one right-turn lane.

Implementation of Mitigation Measure 3.14-7x would reduce the significant impact on Intersection 33 from the Proposed Project and High Density Alternatives under cumulative (2030) conditions to a **less-than-significant level**, by allowing this intersection to operate at an acceptable LOS D or better.



Unacceptable LOS at the Douglas Road/Americanos Boulevard Intersection (Intersection 34) under Cumulative (2030) Conditions. *Operations at this signalized intersection would degrade from an acceptable LOS to an unacceptable LOS E during the p.m. peak traffic hour with project traffic under cumulative (2030) conditions.*

Mitigation Measure 3.14-7y: Participate in Improvements to the Douglas Road/Americanos Boulevard Intersection (Intersection 34).

PP, HD, IM To ensure that the Douglas Road/Americanos Boulevard intersection operates at an acceptable LOS D or better, a second eastbound right-turn lane must be added.

Implementation of Mitigation Measure 3.14-7y would reduce the significant impact on Intersection 34 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a **less-than-significant** level, by allowing this intersection to operate at an acceptable LOS D or better.

IMPACT 3.14-7z Unacceptable LOS at the Chrysanthy Boulevard/Sunrise Boulevard Intersection (Intersection 35) under Cumulative (2030) Conditions. *This signalized intersection would operate at an acceptable LOS during the a.m. and p.m. peak traffic hours without project traffic under cumulative (2030) conditions. Project traffic would degrade operations during the a.m. peak traffic hour to an unacceptable level.*

Mitigation Measure 3.14-7z: Participate in Improvements to the Chrysanthy Boulevard/Sunrise Boulevard Intersection (Intersection 35).

PP, HD, IM To ensure that the Chrysanthy Boulevard/Sunrise Boulevard intersection operates at an acceptable LOS, a second westbound right-turn lane must be added.

Implementation of Mitigation Measure 3.14-7z would reduce the significant impact on Intersection 35 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a **less-than-significant** level, by allowing this intersection to operate at an acceptable LOS D or better.

IMPACT 3.14-7aa Unacceptable LOS at the White Rock Road/Americanos Boulevard Intersection (Intersection 39) under Cumulative (2030) Conditions. *Operations at this signalized intersection would degrade from an unacceptable LOS to an unacceptable LOS F during the a.m. and p.m. peak traffic hours with project traffic under cumulative (2030) conditions.*

Mitigation Measure 3.14-7aa: Participate in Improvements to the White Rock Road/Americanos Boulevard Intersection (Intersection 39).

PP, HD, IM To ensure that the White Rock Road/Americanos Boulevard intersection operates at an acceptable LOS during the a.m. peak traffic hour, the northbound and southbound approaches must be reconfigured to consist of three left-turn lanes, two through lanes, and a shared through/right-turn lane; and the eastbound and westbound approaches must be reconfigured to consist of one left-turn lane, three through lanes, and two right-turn lanes.

Improvements to this intersection must be coordinated with the County and Aerojet General Corporation (Aerojet).

Implementation of Mitigation Measure 3.14-7aa would reduce the significant impact on Intersection 39 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS D or better. However, future north-south connectivity falls under the jurisdiction of the County and may be precluded by operations at Aerojet; therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of this improvement. Thus, this impact would remain **significant and unavoidable**. If the County and Aerojet cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7bb

Unacceptable LOS at the Hazel Avenue/Gold Country Boulevard Intersection (Intersection 40) under Cumulative (2030) Conditions. *This signalized intersection would operate at an unacceptable LOS F during the a.m. and p.m. peak traffic hours with and without project traffic under cumulative (2030) conditions. Project traffic would cause the V/C ratio at this intersection to increase by 0.05 or more during the a.m. peak hour only.*

Mitigation Measure 3.14-7bb: Participate in Improvements to the Hazel Avenue/Gold Country Boulevard Intersection (Intersection 40).

PP, HD, IM To ensure that the Hazel Avenue/Gold Country Boulevard intersection operates at an acceptable LOS, the northbound and southbound approaches must be reconfigured to consist of additional through lanes in the northbound and southbound directions. However, there are significant geographic constraints associated with additional widening of Hazel Avenue, primarily because of the existing bridge crossing of the American River just north of this intersection. Additionally, any roadway widening would require modification to the bluffs between the American River and Fair Oaks Boulevard. Improvements to this intersection must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7bb would reduce the significant impact on Intersection 40 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. Because of the geographic and environmental constraints identified above, this improvement may be infeasible. Additionally, this intersection falls under the jurisdiction of the County. Because of the geographic feasibility constraints and the fact that neither the City nor the project applicant(s) would have control over the timing or implementation of the improvements, this impact would remain **significant and unavoidable**. If Caltrans and the County cooperate in allowing the improvements to move forward, and the improvement is determined to be feasible, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7cc

Unacceptable LOS on International Drive between South White Rock Road and Zinfandel Drive (Roadway Segment 6) under Cumulative (2030) Conditions. *Operations on this roadway segment would degrade from an acceptable LOS C to an unacceptable LOS E with project traffic under cumulative (2030) conditions.*

Mitigation Measure 3.14-7cc: Participate in Improvements to International Drive between South White Rock Road and Zinfandel Drive (Roadway Segment 6).

PP, HD, IM Improvements must be made to ensure that International Drive operates at an acceptable LOS between South White Rock Road and Zinfandel Drive; specifically, this roadway segment should be widened to eight lanes. However, the identified improvement is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.

An alternative to this improvement is additional connectivity, such as completion of the Kiefer Boulevard extension into Sacramento. This alternative improvement could relieve some traffic from this roadway segment, but would not reduce the impact to a less-than-significant level.

Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7cc would reduce the significant impact on Roadway Segment 6 under the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS. However, the identified improvement (widening of International Drive) is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes; therefore, the

improvement may not be implemented. Furthermore, the alternative addition of roadway connectivity would not reduce impacts to a less-than-significant level. Additionally, the identified improvements would fall under the jurisdiction of the County, therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of the improvements. Given these conditions, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the identified improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

**IMPACT 3.14-7dd** Unacceptable LOS on Mather Field Road between Folsom Boulevard and U.S. 50 Westbound Ramps (Roadway Segment 12) under Cumulative (2030) Conditions. *Operations at this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS E.*

**Mitigation Measure 3.14-7dd: Participate in Improvements to Mather Field Road between Folsom Boulevard and U.S. 50 Westbound Ramps (Roadway Segment 12).**

PP, HD, IM Improvements must be made to ensure that Mather Field Road operates at an acceptable LOS between Folsom Boulevard and U.S. 50 westbound ramps; specifically, this roadway segment should have high-access controls.

Implementation of Mitigation Measure 3.14-7dd would reduce the significant impact on Roadway Segment 12 under the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a **less-than-significant** level, by allowing this intersection to operate at an acceptable LOS.

**IMPACT 3.14-7ee** Unacceptable LOS on Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15) under Cumulative (2030) Conditions. *Operation of this roadway segment would operate at an unacceptable LOS F with or without the project, and the V/C ratio would increase by more than 0.05 with project traffic under cumulative (2030) conditions.*

**Mitigation Measure 3.14-7ee: Participate in Improvements to Zinfandel Drive between the U.S. 50 Eastbound Ramps and White Rock Road (Roadway Segment 15).**

PP, HD, IM Improvements must be made to ensure that Zinfandel Drive operates at an acceptable LOS between the U.S. 50 eastbound ramps and White Rock Road; specifically, this roadway segment should be widened to eight lanes. However, this identified improvement is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.

An alternative to this improvement is additional connectivity, such as the completion of Kiefer Boulevard into Sacramento and the extension of Routier Road. This alternative improvement could relieve some traffic from this roadway segment, but would not reduce the impact to a less-than-significant level.

Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7ee would reduce the significant impact on Roadway Segment 15 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this intersection to operate at an acceptable LOS D or better. This identified improvement (widening of Zinfandel Drive) is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes; therefore, it may not be implemented. Furthermore, the alternative addition of roadway connectivity would not reduce impacts to a less-than-significant level. Additionally, the identified improvements would fall under the jurisdiction of the County, therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of

these improvements. Given these conditions, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7ff

Unacceptable LOS on Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17) under Cumulative (2030) Conditions. *This roadway segment would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio by more than 0.05.*

Mitigation Measure 3.14-7ff: Participate in Improvements to Sunrise Boulevard between Gold Country Boulevard and Coloma Road (Roadway Segment 17).

PP, HD, IM Improvements must be made to improve operation on Sunrise Boulevard between Gold Country Boulevard and Coloma Road; specifically, this roadway segment should be widened to eight lanes. The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on the roadway segment. However, because of other development in the region that would substantially increase traffic levels, the roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts. The identified improvement is consistent with the County Mobility Study; however, it is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Moreover, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment. Additional river crossings would result in significant environmental effects (i.e., loss of riparian habitat and loss of structures).

Implementation of Mitigation Measure 3.14-7ff would reduce the significant impact on Roadway Segment 17 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level by offsetting impacts of project traffic. However, because the improvement (widening of Sunrise Boulevard) is inconsistent with the City's Circulation Element/Plan and therefore may not be implemented, and because the potential for additional river crossings is limited and would require coordination and approval by other regulatory agencies in which neither the City nor project applicant(s) have any control over the timing or implementation of additional river crossings, this impact would remain **significant and unavoidable**.

IMPACT  
3.14-7gg

Unacceptable LOS on Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18) under Cumulative (2030) Conditions. *This roadway segment would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio by more than 0.05.*

Mitigation Measure 3.14-7gg: Participate in Improvements to Sunrise Boulevard between Coloma Road and the U.S. 50 Westbound Ramps (Roadway Segment 18).

PP, HD, IM Improvements must be made to improve operation on Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps; specifically, this roadway segment should be widened to eight lanes. The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on this roadway segment. However, because of other development in the region that would substantially increase traffic levels, this roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts. The identified improvement is consistent with the County Mobility Study; however, it is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes. Moreover, without additional river crossings, there are no parallel capacity improvements to relieve Sunrise Boulevard on this segment.

Implementation of Mitigation Measure 3.14-7gg would reduce the significant impact on Roadway Segment 18 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level by offsetting impacts of project traffic. However, because the improvement (widening of Sunrise Boulevard) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented, and because the potential for additional river crossings is limited and would require coordination and approval by other regulatory agencies in which neither the City nor project applicant(s) have any control over the timing or implementation of additional river crossings, this impact would remain **significant and unavoidable**.

IMPACT 3.14-7hh Unacceptable LOS on Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom Boulevard (Roadway Segment 19) under Cumulative (2030) Conditions. *Operation of this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F with project traffic under cumulative conditions.*

Mitigation Measure 3.14-7hh: Participate in Improvements to Sunrise Boulevard between the U.S. 50 Eastbound Ramps and Folsom Boulevard (Roadway Segment 19).

PP, HD, IM Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS between the U.S. 50 eastbound ramps and Folsom Boulevard; specifically, this roadway segment should be widened to eight lanes. With implementation of this identified improvement, this segment would operate at an acceptable LOS, and the improvement is consistent with the County Mobility Study; however, it is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.

Implementation of Mitigation Measure 3.14-7hh would reduce the significant impact on Roadway Segment 19 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this roadway segment to operate at an acceptable LOS D or better. However, because the improvement (widening of Sunrise Boulevard) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented, this impact would remain **significant and unavoidable**.

IMPACT 3.14-7ii Unacceptable LOS on Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20) under Cumulative (2030) Conditions. *Operation of this roadway segment would degrade from an acceptable LOS B to an unacceptable LOS E with project traffic under cumulative (2030) conditions.*

Mitigation Measure 3.14-7ii: Participate in Improvements to Sunrise Boulevard between Folsom Boulevard and White Rock Road (Roadway Segment 20).

PP, HD, IM Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS between Folsom Boulevard and White Rock Road; specifically, this roadway segment should be widened to eight lanes. With implementation of this identified improvement, this segment would operate at an acceptable LOS, but the improvement is inconsistent with the City’s Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes.

Implementation of Mitigation Measure 3.14-7ii would reduce the significant impact on Roadway Segment 20 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this roadway segment to operate at an acceptable LOS D or better. However, because this identified improvement (widening of Sunrise Boulevard) is inconsistent with the City’s Circulation Element/Plan and therefore may not be implemented, the impact would remain **significant and unavoidable**.

IMPACT  
3.14-7jj

Unacceptable LOS on Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23) under Cumulative (2030) Conditions. *This roadway segment would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would increase the V/C ratio by more than 0.05.*

Mitigation Measure 3.14-7jj: Participate in Improvements to Hazel Avenue between Winding Way and the U.S. 50 Westbound Ramps (Roadway Segment 23).

PP, HD, IM To improve operation on Hazel Avenue between Winding Way and the U.S. 50 westbound ramps, this roadway segment must be widened to eight lanes. Improvements to this roadway segment must be coordinated with the County.

The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on this roadway segment. However, because of other development in the region that would substantially increase traffic levels, this roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts.

Implementation of Mitigation Measure 3.14-7jj would reduce the significant impact on Roadway Segment 23 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions, by offsetting impacts of project traffic. However, the identified improvement falls under the jurisdiction of the County; therefore, neither the City nor the project applicant(s) would have control over its timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7kk

Unacceptable LOS on U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27); between Sunrise Boulevard and Rancho Cordova Parkway (Freeway Segment 29); between Rancho Cordova Parkway and Hazel Avenue (Freeway Segment 30); and between Hazel Avenue and Folsom Boulevard (Freeway Segment 31) under Cumulative (2030) Conditions. *These segments would operate at an unacceptable LOS F with or without project traffic under cumulative (2030) conditions. Project traffic would exacerbate these unacceptable operations.*

Mitigation Measure 3.14-7kk: Participate in Improvements to U.S. 50 between Mather Field Road and Zinfandel Drive (Freeway Segment 27); between Sunrise Boulevard and Rancho Cordova Parkway (Freeway Segment 29); between Rancho Cordova Parkway and Hazel Avenue (Freeway Segment 30); and between Hazel Avenue and Folsom Boulevard (Freeway Segment 31).

PP, HD, IM To ensure that these freeway segments operate at an acceptable LOS, all of the following improvements are required:

- ▶ Ramp metering must be implemented on the Mather Field Road and Zinfandel Drive eastbound on-ramps.
- ▶ Auxiliary lanes must be constructed from Mather Field Road, Sunrise Boulevard, and Rancho Cordova Parkway.
- ▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.
- ▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer

Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.

- ▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, as an interim project, to Watt Avenue).
- ▶ HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.

Improvements to these freeway segments must be coordinated with Caltrans.

Implementation of Mitigation Measure 3.14-7kk would reduce the significant impact from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing these freeway segments to operate at an acceptable LOS. The Circulation Element/Plan in the City General Plan and the City's CIP include many of the improvements identified above. However, these required improvements fall under the jurisdiction of Caltrans; therefore, neither the City nor the project applicant(s) would have control over their timing or implementation. Thus, this impact would remain **significant and unavoidable**. If Caltrans cooperates in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.



**Unacceptable LOS on Sunrise Boulevard between Douglas Road and Chrysanthy Boulevard (Roadway Segment 43) under Cumulative (2030) Conditions.** *Operations on this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F, and the V/C ratio would increase by 0.05 or more, with project traffic under cumulative (2030) conditions.*

**Mitigation Measure 3.14-7II: Participate in Improvements to Sunrise Boulevard between Douglas Road and Chrysanthy Boulevard (Roadway Segment 43).**

PP, HD, IM Improvements must be made to ensure that Sunrise Boulevard operates at an acceptable LOS D or better between Douglas Road and Chrysanthy Boulevard; specifically, this roadway segment should be widened to eight lanes. With implementation of this improvement, this segment would operate at an acceptable LOS; however, the improvement is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes or fewer.

An alternative to this improvement is additional connectivity, such as the extensions of Chrysanthy Boulevard to Kiefer Boulevard, Jaeger Road to Grant Line Road, and Kiefer Boulevard to Sacramento. This alternative improvement has the potential to relieve traffic from this roadway segment and reduce the impact to a less-than-significant level.

Improvements to this roadway segment must be coordinated with the County.

Implementation of Mitigation Measure 3.14-7II would reduce the significant impact on Roadway Segment 43 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level, by allowing this roadway segment to operate at an acceptable LOS D or better. However, this identified improvement (widening of Sunrise Boulevard) is inconsistent with the City's Circulation Element/Plan and therefore may not be implemented. Furthermore, the necessary alternative addition of roadway connectivity falls under the jurisdiction of the County; therefore, neither the City nor the project applicant(s) would have control over its timing or implementation. Thus, this impact would remain **significant and unavoidable**. If the County cooperates in allowing the improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7mm

Unacceptable LOS on Rancho Cordova Parkway between Easton Valley Parkway and White Rock Road (Roadway Segment 47) under Cumulative (2030) Conditions. *Operations on this roadway segment would degrade from an acceptable LOS D to an unacceptable LOS F with project traffic under cumulative (2030) conditions.*

**Mitigation Measure 3.14-7mm: Participate in Improvements to Rancho Cordova Parkway between Easton Valley Parkway and White Rock Road (Roadway Segment 47).**

PP, HD, IM To improve operation on Rancho Cordova Parkway between Easton Valley Parkway and White Rock Road, this roadway segment must be widened to eight lanes. The identified improvement would more than offset the impacts specifically related to the Rio del Oro project on this roadway segment. However, because of other development in the region that would substantially increase traffic levels, this roadway segment would continue to operate at an unacceptable LOS even with the capacity improvements identified to mitigate Rio del Oro impacts. Furthermore, this improvement is inconsistent with the City's Circulation Element/Plan because City policy requires a maximum roadway cross section of six lanes or fewer.

An alternative to this improvement is additional connectivity, such as the extension of Chrysanthy Boulevard to Kiefer Boulevard, the extension of Jaeger Road to Grant Line Road, the extension of Kiefer Boulevard to Sacramento, and additional connectivity through the Aerojet site. This alternative improvement has the potential to relieve traffic from this roadway segment, but would not reduce the impact to a less-than-significant level.

Improvements to this roadway segment must be coordinated with the County and Aerojet.

Implementation of Mitigation Measure 3.14-7mm would reduce the significant impact on Roadway Segment 47 from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions, to a less-than-significant level by offsetting impacts from project traffic. However, the identified improvement (widening Rancho Cordova Parkway) is inconsistent with the City's Circulation Element/Plan and therefore may not be implemented. Furthermore, the alternative roadway connectivity would not reduce the project impact to a less-than-significant level. Additionally, the necessary alternative addition of roadway connectivity falls under the jurisdiction of the County and Aerojet; therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of the improvements. For these reasons, this impact would remain **significant and unavoidable**. If the County and Aerojet cooperate in allowing the improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

IMPACT  
3.14-7nn

Unacceptable LOS on Rancho Cordova Parkway between White Rock Road and Douglas Road (Roadway Segment 48) under Cumulative (2030) Conditions. *Operations on this roadway segment would degrade from an acceptable LOS A to an unacceptable LOS E with project traffic from the High Density and Impact Minimization Alternatives under cumulative (2030) conditions.*

**Mitigation Measure 3.14-7nn: Participate in Improvements to Rancho Cordova Parkway between White Rock Road and Douglas Road (Roadway Segment 48).**

HD, IM To ensure that Rancho Cordova Parkway operates at an acceptable LOS D or better between White Rock Road and Douglas Road, high-access control must be implemented on this roadway segment.

Implementation of Mitigation Measure 3.14-7nn would reduce the significant impact on Roadway Segment 48 from Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a **less-than-significant** level, by allowing this roadway segment to operate at an acceptable LOS D or better.

IMPACT  
3.14-7oo

Unacceptable LOS on Americanos Boulevard between White Rock Road and Douglas Road (Roadway Segment 50) under Cumulative (2030) Conditions. *Operations on this roadway segment would degrade from an acceptable LOS to an unacceptable LOS E with project traffic from the High Density Alternative under cumulative (2030) conditions.*

Mitigation Measure 3.14-7oo: Participate in Improvements to Americanos Boulevard between White Rock Road and Douglas Road (Roadway Segment 50).

HD To ensure that Americanos Boulevard operates at an acceptable LOS D or better between White Rock Road and Douglas Road, this roadway segment must have high-access control.

Implementation of Mitigation Measure 3.14-7oo would reduce the significant impact on Roadway Segment 50 from the High Density Alternative under cumulative (2030) conditions to a **less-than-significant** level, by allowing this roadway segment to operate at an acceptable LOS.

IMPACT  
3.14-7pp

Unacceptable LOS at Various Merge, Diverge, and Weave Segments of U.S. 50 under Cumulative (2030) Conditions. *The following merge, diverge, and weave segments of U.S. 50 would operate at an unacceptable LOS F with and without project-related traffic from all three development alternatives under cumulative (2030) conditions:*

- ▶ Eastbound U.S. 50
  - Mather Field Road direct off-ramp, diverge
  - Sunrise Boulevard direct off-ramp, diverge (p.m. peak traffic hour only)
  - Sunrise Boulevard loop/direct on-ramp, merge
  - Rancho Cordova Parkway direct on-ramp, merge
  - Rancho Cordova Parkway direct off-ramp, diverge
  - Hazel Avenue direct off-ramp, diverge
  - Hazel Avenue loop/direct on-ramp, weave (a.m. peak traffic hour only)
  - Aerojet direct off-ramp, weave (a.m. peak traffic hour only)
  
- ▶ Westbound U.S. 50
  - Hazel Avenue direct off-ramp, diverge
  - Hazel Avenue loop on-ramp, merge
  - Rancho Cordova Parkway direct off-ramp, diverge
  - Rancho Cordova Parkway loop on-ramp, merge
  - Sunrise Boulevard direct off-ramp, diverge (p.m. peak traffic hour only)
  - Zinfandel Drive direct on-ramp, merge
  - Mather Field Road direct off-ramp, diverge (a.m. peak traffic hour only)
  - Mather Field Road loop on-ramp, merge (a.m. peak traffic hour only)
  - Mather Field Road direct on-ramp, merge

The addition of project-related traffic under cumulative conditions would cause the following unacceptable LOS changes at U.S. 50 merge and diverge segments:

- ▶ Eastbound U.S. 50
  - Zinfandel Drive direct off-ramp, diverge—would degrade from LOS C to LOS F during the a.m. peak traffic hour under the Proposed Project and High Density Alternatives

### Mitigation Measure 3.14-7pp: Participate in Improvements to U.S. 50 Merge, Diverge, and Weave Segments.

PP, HD, IM

To ensure that the U.S. 50 merge, diverge, or weave areas operate at an acceptable LOS, the following improvements to the U.S. 50 corridor are required:

- ▶ Ramp metering must be added on the Mather Field Road and Zinfandel Drive eastbound on-ramps.
- ▶ An auxiliary lane must be constructed from Mather Field Road and Sunrise Boulevard.
- ▶ Traffic-signal timing at freeway interchanges must be coordinated with adjacent City intersections to minimize impacts of vehicle queue spillback onto U.S. 50.
- ▶ Parallel facilities to U.S. 50 must be constructed, including improvements to SR 16, extension of International Drive into and through the project site, extension of Kiefer Boulevard, construction of Easton Valley Parkway, and connectivity of International Drive to Old Placerville Road.
- ▶ HOV lanes must be extended from Sunrise Boulevard to downtown Sacramento (or, in an interim project, to Watt Avenue).
- ▶ HOV enhancements to existing interchanges must be provided, such as bypass lanes at existing metered on-ramps.

Improvements to these merge, diverge, and weave areas must be coordinated with Caltrans and the County.

Implementation of Mitigation Measure 3.14-7pp would aid in reducing the significant impact from the Proposed Project, High Density, and Impact Minimization Alternatives under cumulative (2030) conditions to a less-than-significant level. The Circulation Element/Plan in the City General Plan and the City's CIP include many of the improvements identified above.

However, several of the identified improvements fall under the jurisdiction of Caltrans and the County; therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of the improvements. Thus, this impact would remain **significant and unavoidable**. If Caltrans, the County, and Aerojet cooperate in allowing the improvement to move forward, the impact would be classified as significant in the short term but eventually would be reduced to a less-than-significant level in the long term.

### 3.14.4 RESIDUAL SIGNIFICANT IMPACTS

The Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives would increase traffic on area roadways, regardless of whether or not the proposed International Drive realignment option is incorporated into the project. This impact would remain significant and unavoidable for baseline and cumulative (2030) conditions.

## 3.15 AIR QUALITY

### 3.15.1 AFFECTED ENVIRONMENT

The Rio del Oro project site is located in Sacramento County, California, which is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). SMAQMD is the primary local agency with respect to air quality for all of Sacramento County. Sacramento County is within the Sacramento Valley Air Basin (SVAB), which also includes all of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba Counties, the western portion of Placer County, and the eastern portion of Solano County. Air quality in this area is determined by such natural factors as topography, climate, and meteorology, in addition to the presence of existing air pollution sources and conditions. These factors are discussed below.

#### TOPOGRAPHY, CLIMATE, AND METEOROLOGY

The SVAB is relatively flat, bordered by mountains to the east, west, and north. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin River Delta, bringing with it pollutants from the heavily populated San Francisco Bay Area. The climate is characterized by hot, dry summers and cool, rainy winters. Periods of dense and persistent low-level fog that are most prevalent between storms are characteristic of SVAB winter weather. From May to October, the region's intense heat and sunlight lead to high ozone concentrations. Summer inversions are strong and frequent, but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

Most precipitation in the area results from air masses that move in from the Pacific Ocean during the winter months. These storms usually move from the west or northwest. More than half the total annual precipitation falls during the winter rainy season (November–February); the average winter temperature is a moderate 49 degrees Fahrenheit (°F). During the summer, daily temperatures range from 50°F to more than 100°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature.

Regional flow patterns affect air quality patterns by moving pollutants downwind of sources. Localized meteorological conditions, such as moderate winds, disperse pollutants and reduce pollutant concentrations. An inversion layer develops when a layer of warm air traps cooler air close to the ground. Such temperature inversions hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground. During summer mornings and afternoons, these inversions are present over the project site. During summer's longer daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between reactive organic gases (ROGs) and oxides of nitrogen (NO<sub>x</sub>), which results in ozone formation.

In the winter, temperature inversions dominate during the night and early morning hours but frequently dissipate by afternoon. The greatest pollution problems during this time of year are from carbon monoxide (CO) and NO<sub>x</sub>. High CO concentrations occur on winter days with strong surface inversions and light winds. CO transport is extremely limited.

Local meteorology of the project site is represented by measurements recorded at the Sacramento station. The normal annual precipitation, which occurs primarily from November through March, is approximately 18 inches. January temperatures range from a normal minimum of 38°F to a normal maximum of 53°F. July temperatures range from a normal minimum of 58°F to a normal maximum of 93°F (NOAA 1992). The predominant wind direction and speed is from the south-southwest at 10 mph (ARB 1994).

## EXISTING AIR QUALITY—CRITERIA AIR POLLUTANTS

### *California and National Ambient Air Quality Standards*

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone, CO, nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as “criteria air pollutants.”

EPA has established primary and secondary national ambient air quality standards (NAAQS) for the following criteria air pollutants: ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, respirable particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), and lead. The primary standards protect the public health and the secondary standards protect public welfare. In addition to the NAAQS, ARB has established California ambient air quality standards (CAAQS) for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health-effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals. The NAAQS and CAAQS as discussed above are listed in Table 3.15-1.

### **Ozone**

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and is the primary component of smog. Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of ROG<sub>s</sub> and NO<sub>x</sub> in the presence of sunlight. ROG<sub>s</sub> are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO<sub>x</sub> are a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels.

Ozone located in the upper atmosphere (stratosphere) acts in a beneficial manner by shielding the earth from harmful ultraviolet radiation that is emitted by the sun. However, ozone located in the lower atmosphere (troposphere) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often affects large areas. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 1991).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 part per million (ppm) for 1–2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence also exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an increase in responsiveness of the respiratory system to challenges, and the interference or inhibition of the immune system’s ability to defend against infection (Godish 1991).

<b>Table 3.15-1 Ambient Air Quality Standards and Designations</b>						
Pollutant	Averaging Time	California		National Standards <sup>a</sup>		
		Standards <sup>b, c</sup>	Attainment Status <sup>d</sup>	Primary <sup>c, e</sup>	Secondary <sup>c, f</sup>	Attainment Status <sup>g</sup>
Ozone <sup>h</sup>	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	N	-*	Same as Primary Standard	-
	8-hour	0.07 ppm (137 µg/m <sup>3</sup> )	U	0.08 ppm (157 µg/m <sup>3</sup> )		N
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m <sup>3</sup> )	A	35 ppm (40 mg/m <sup>3</sup> )	-	U/A
	8-hour	9 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )		
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	-	-	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	U/A
	1-hour	0.25 ppm (470 µg/m <sup>3</sup> )	A	-		-
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	-	-	0.030 ppm (80 µg/m <sup>3</sup> )	-	-
	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	A	0.14 ppm (365 µg/m <sup>3</sup> )	-	U
	3-hour	-	-	-	0.5 ppm (1300 µg/m <sup>3</sup> )	-
	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	A	-	-	-
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup> *	N	-*	Same as Primary Standard	N
	24-hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup> <sup>h</sup>		

Table 3.15-1 Ambient Air Quality Standards and Designations						
Pollutant	Averaging Time	California		National Standards <sup>a</sup>		
		Standards <sup>b,c</sup>	Attainment Status <sup>d</sup>	Primary <sup>c,e</sup>	Secondary <sup>c,f</sup>	Attainment Status <sup>g</sup>
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>i</sup>	Annual Arithmetic Mean	12 µg/m <sup>3*</sup>	N	15 µg/m <sup>3</sup>	Same as Primary Standard	U (Recommended)
	24-hour	–	–	35 µg/m <sup>3</sup>		
Lead <sup>j</sup>	30-day Average	1.5 µg/m <sup>3</sup>	U	–	–	–
	Calendar Quarter	–	–	1.5 µg/m <sup>3</sup>	Same as Primary Standard	
Sulfates	24-hour	25 µg/m <sup>3</sup>	A	<b>No Federal Standards</b>		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	U			
Vinyl Chloride <sup>g</sup>	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )	U/A			
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%.	U			

**Table 3.15-1  
Ambient Air Quality Standards and Designations**

Pollutant	Averaging Time	California		National Standards <sup>a</sup>		
		Standards <sup>b, c</sup>	Attainment Status <sup>d</sup>	Primary <sup>c, e</sup>	Secondary <sup>c, f</sup>	Attainment Status <sup>g</sup>
<p>Notes: <math>\mu\text{g}/\text{m}^3</math> = micrograms per cubic meter; ppm = parts per million</p> <p>* The 1-hour ozone NAAQS was revoked on June 15, 2005. The annual <math>\text{PM}_{10}</math> NAAQS was revoked in 2006.</p> <p><sup>a</sup> National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The <math>\text{PM}_{10}</math> 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The <math>\text{PM}_{2.5}</math> 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.</p> <p><sup>b</sup> California standards for ozone, CO (except Lake Tahoe), <math>\text{SO}_2</math> (1- and 24-hour), <math>\text{NO}_2</math>, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.</p> <p><sup>c</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (<math>^{\circ}\text{C}</math>) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of <math>25^{\circ}\text{C}</math> and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.</p> <p><sup>d-i</sup> Unclassified (<b>U</b>): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.  Attainment (<b>A</b>): a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period.  Nonattainment (<b>N</b>): a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area.  Nonattainment/Transitional (<b>NT</b>): is a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.</p> <p><sup>e</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.</p> <p><sup>f</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.</p> <p><sup>g</sup> Nonattainment (<b>N</b>): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.</p> <p><sup>h</sup> New federal 8-hour ozone was promulgated by EPA on July 18, 1997.</p> <p><sup>i</sup> On June 20, 2002, ARB approved staff recommendation to revise the <math>\text{PM}_{10}</math> annual average standard to <math>20 \mu\text{g}/\text{m}^3</math> and to establish an annual average standard for <math>\text{PM}_{2.5}</math> of <math>12 \mu\text{g}/\text{m}^3</math>. These standards took effect on July 5, 2003. Information regarding these revisions can be found at <a href="http://www.arb.ca.gov/research/aaqs/std-rs.htm">http://www.arb.ca.gov/research/aaqs/std-rs.htm</a>.  Attainment (A): any area that meets the national primary or secondary ambient air quality standard for the pollutant.  Unclassifiable (U): any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.</p> <p><sup>j</sup> ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.</p> <p>Sources: ARB 2006a, EPA 2006a</p>						

In 1997, EPA promulgated a new 8-hour standard in recognition of impacts resulting from daylong exposure. On April 15, 2004, EPA designated areas of the country that exceed the 8-hour standard ozone standard as nonattainment. The designations became effective on June 15, 2004, and incorporate air quality data for the years 2001–2003. These designations have triggered new planning requirements for the 8-hour standard.

Emissions of ozone precursors  $\text{NO}_x$  and ROG have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Consequently, peak 1-hour and 8-hour ozone concentrations in the SVAB have declined overall by about 15% since 1988. However, peak ozone values have not declined as rapidly in the SVAB over the last several years as they have in other urban areas. This can be attributed to influx of pollutants into the SVAB from other urbanized areas, making the region both a transport contributor and a receptor of pollutants (ARB 2006b).

### ***Carbon Monoxide***

CO is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. In fact, 77% of the nationwide CO emissions are from mobile sources. The other 23% consist of CO emissions from wood-burning stoves, incinerators, and industrial sources.

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2006a).

The highest CO concentrations are generally associated with cold stagnant weather conditions that occur during the winter. In contrast to ozone, which tends to be a regional pollutant, CO problems tend to be localized.

### ***Nitrogen Dioxide***

$\text{NO}_2$  is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of  $\text{NO}_2$  are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal-combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form  $\text{NO}_2$  (EPA 2005a). The combined emissions of NO and  $\text{NO}_2$  are referred to as  $\text{NO}_x$ , which are reported as equivalent  $\text{NO}_2$ . Because  $\text{NO}_2$  is formed and depleted by reactions associated with photochemical smog (ozone), the  $\text{NO}_2$  concentration in a particular geographical area may not be representative of the local  $\text{NO}_x$  emission sources.

Inhalation is the most common route of exposure to  $\text{NO}_2$ . Because  $\text{NO}_2$  has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation, during or shortly after exposure. After a period of approximately 4–12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic  $\text{NO}_2$  intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung functions.

### ***Sulfur Dioxide***

$\text{SO}_2$  is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with  $\text{SO}_2$  exposure pertain to the upper respiratory tract.  $\text{SO}_2$  is a respiratory irritant with constriction of the bronchioles occurring with inhalation of  $\text{SO}_2$  at 5 ppm or more. On contact with the moist mucous membranes,  $\text{SO}_2$  produces sulfurous acid, which is a direct irritant. Concentration

rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO<sub>2</sub> concentrations may result in edema of the lungs or glottis and respiratory paralysis.

### **Particulate Matter**

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM<sub>10</sub>. PM<sub>10</sub> consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by condensation and/or transformation of SO<sub>2</sub> and ROG<sub>s</sub> (EPA 2006a). PM<sub>2.5</sub> includes a subgroup of finer particles that have an aerodynamic diameter of 2.5 micrometers or less (ARB 2006b).

The adverse health effects associated with PM<sub>10</sub> depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons (PAHs), and other toxic substances adsorbed onto fine particulate matter (the piggybacking effect), or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with PM<sub>10</sub> may result from both short-term and long-term exposure to elevated concentrations and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2005a). PM<sub>2.5</sub> poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health.

In 1982, ARB adopted 24-hour average and annual average PM<sub>10</sub> standards. NAAQS for PM<sub>10</sub> have been in place since 1987. However, California's PM<sub>10</sub> standards are more health-protective.

In June 2002, ARB adopted recommendations to lower the level of the PM<sub>10</sub> annual standard from 30 micrograms per cubic meter (µg/m<sup>3</sup>) to 20 µg/m<sup>3</sup> in addition to establishing a new annual PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>. EPA promulgated new NAAQS for PM<sub>2.5</sub> in 1997 to complement the national PM<sub>10</sub> standards. In early 2004, ARB transmitted recommendations for area designations for the national PM<sub>2.5</sub> standards to EPA. On January 5, 2005, EPA promulgated air quality designations for all areas for the NAAQS for PM<sub>2.5</sub>.

Direct emissions of both PM<sub>10</sub> and PM<sub>2.5</sub> increased in the SVAB between 1975 and 2000 and are projected to increase through 2020. These emissions are dominated by areawide sources, primarily because of development. Direct emissions of PM from mobile and stationary sources have remained relatively steady (ARB 2006b).

### **Lead**

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline (discussed in detail below), metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. EPA banned the use of leaded gasoline in highway vehicles in December 1995 (EPA 2006a).

As a result of EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector have declined dramatically (by 95% between 1980 and 1999), and levels of lead in the air decreased by 94% between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13% of lead emissions. A recent National Health and Nutrition Examination Survey reported a 78% decrease in the levels of lead in human blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (as well as the removal of lead from soldered cans) (EPA 2006a).

The decrease in lead emissions and ambient lead concentrations over the past 25 years is California's most dramatic success story with regard to air quality management. The rapid decrease in lead concentrations can be attributed primarily to phasing out the lead in gasoline. This phase-out began during the 1970s, and subsequent ARB regulations have virtually eliminated all lead from gasoline now sold in California. All areas of the state are currently designated as attainment for the state lead standard (EPA does not designate areas for the national lead standard). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hot spot" problems in some areas. As a result, ARB identified lead as a toxic air contaminant.

### **California and National Area Designations**

Criteria air pollutant concentrations are measured at several monitoring stations in the SVAB. The Sacramento–Del Paso Manor station is the closest monitoring station to the project site with recent data for ozone, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. In general, the ambient air quality measurements from these monitoring stations are representative of the air quality in the vicinity of the project site. Table 3.15-2 summarizes the air quality data from the most recent 3 years for these two monitoring stations.

<b>Table 3.15-2 Summary of Annual Ambient Air Quality Data (2003–2005)</b>			
	2003	2004	2005
<b>Ozone</b>			
Maximum concentration (1-hour/8-hour average, ppm)	0.134/ 0.113	0.110/ 0.089	0.134/ 0.117
Number of days state 1-hour standard exceeded	21	6	14
Number of days national 1-hour/8-hour standard exceeded	2/13	0/3	1/10
<b>Carbon Monoxide</b>			
Maximum concentration (1-hour/8-hour average, ppm)	8.5/4.3	3.6/3.2	4.5/3.5
Number of days state standard exceeded	0	0	0
Number of days national standard exceeded	0	0	0
<b>Fine Particulate Matter (PM<sub>2.5</sub>)</b>			
Maximum concentration (µg/m <sup>3</sup> )	73.2	58.2	81.4
Number of days national standard exceeded	0	0	5
<b>Respirable Particulate Matter (PM<sub>10</sub>)</b>			
Maximum concentration (µg/m <sup>3</sup> )	55.0	52.0	77.0
Number of days state standard exceeded (calculated <sup>a</sup> )	2	1	5
Number of days national standard exceeded (calculated <sup>a</sup> )	0	0	0
Notes: µg/m <sup>3</sup> = micrograms per cubic meter; ppm = parts per million			
<sup>a</sup> Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.			
Sources: ARB 2006a, EPA 2006a			

Both ARB and EPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are "nonattainment,"

“attainment,” and “unclassified.” The “unclassified” designation is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called “nonattainment-transitional.” The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment. Attainment designations for the year 2004 with respect to the project site are shown in Table 3.15-1 for each criteria air pollutant.

### **EXISTING AIR QUALITY—TOXIC AIR CONTAMINANTS**

A toxic air contaminant (TAC), or in federal terms a hazardous air pollutant (HAP), is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.15-1).

According to the 2006 *California Almanac of Emissions and Air Quality* (ARB 2006b), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, and lubricating oil, and whether an emission control system is present. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, ARB has made preliminary concentration estimates based on a PM exposure method. This method uses the ARB emissions inventory’s PM<sub>10</sub> database, ambient PM<sub>10</sub> monitoring data, and the results from several studies on chemical speciation to estimate concentrations of diesel PM. In addition to diesel PM, benzene, 1, 3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene are the TACs for which data are available that pose the greatest existing ambient risk in California.

Diesel PM poses the greatest health risk among these 10 TACs mentioned. Based on receptor modeling techniques, ARB estimated its health risk to be 360 excess cancer cases per million people in the SVAB. Since 1990 the health risk associated with diesel PM has been reduced by 52%. Overall, levels of most TACs, except for *para*-dichlorobenzene and formaldehyde, have gone down since 1990 (ARB 2006b).

### **EXISTING AIR QUALITY—GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES**

Constituent gases of the Earth’s atmosphere called atmospheric greenhouse gases (GHGs) play a critical role in the Earth’s radiation budget by trapping infrared radiation emitted from the Earth’s surface, which would have otherwise escaped to space. Prominent GHGs contributing to this process include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), ozone, water vapor, nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth’s natural climate, known as global warming or climate change. Global warming—inducing emissions of these gases are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (CEC 2006a). Transportation is responsible for 41% of the state’s GHG emissions, followed by electricity generation (CEC 2006a). Emissions of CO<sub>2</sub> and NO<sub>x</sub> are byproducts of fossil fuel combustion. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills. Sinks of CO<sub>2</sub> include uptake by vegetation and dissolution into the ocean.

Global warming is a global problem, and GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Worldwide, California is the 12th to 16th largest emitter of CO<sub>2</sub>, and is responsible for approximately 2% of the world's CO<sub>2</sub> emissions (CEC 2006a, 2006b). In 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent (CEC 2006a).

Various local and statewide initiatives to reduce the state's contribution to GHG emissions have raised awareness that, even though the possible outcomes and feedback mechanisms associated with climate change are not yet fully understood, global warming is already upon us and the potential for environmental, social, and economic disaster over the long term has the potential to be great. Cooperation on a global scale will be required to reduce GHG emissions to a level that will slow the warming trend, and the direct air quality impact of increasing GHG emissions into the global system is incrementally cumulative.

In September 2006, California 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, and is the first of its kind worldwide (ARB 2006b). AB 32 applies to major stationary sources of emissions only, but acknowledges the urgency of this potential threat to the environment.

At the time of writing no air districts within California, including SMAQMD, have a recommended emission threshold for determining significance associated with GHGs from development projects.

Other resource areas could be affected as a result of GHGs, including from incremental increases of new GHGs emissions. For example, increased global average temperature increases ocean temperatures and the Pacific Ocean strongly influences the climate within California. If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. According to a California Energy Commission report, the snowpack portion of the supply could potentially decline by 70%–90% by the end of the 21st century (CEC 2006c). This phenomenon could lead to significant challenges securing an adequate water supply for a growing population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential for flood events, placing more pressure on California's levee/flood control system. Sea level has risen approximately 7 inches during the last century and, according to the CEC report, it is predicted to rise an additional 22–35 inches by 2100, depending on the future GHG emissions levels (CEC 2006c). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion (especially a concern in the low-lying Sacramento–San Joaquin Delta, where potable water delivery pumps could be threatened), and disruption of wetlands (CEC 2006c). As the existing climate throughout California changes over time, mass migration of species, or worse, failure of species to migrate in time to adapt to the perturbations in climate, could also result.

### **Feedback Mechanisms and Uncertainty**

Additionally, change in ocean temperature would be expected to lead to changes in ocean current circulation (which incidentally is a function of salinity and temperature; parameters that would also change as sea ice and glaciers melt and air temperature increases). Many complex mechanisms compete within Earth's energy budget to establish the global average temperature.

### **Direct and Indirect Aerosol Effects**

Aerosols, including particulate matter, reflect sunlight back to space. As attainment designations for particulate matter are met, and fewer PM emissions occur, the cooling effect of anthropogenic aerosols would be reduced, and instead, the greenhouse effect would be further enhanced. Similarly, aerosols act as cloud condensation nuclei (CCN) to aid in cloud formation and increase cloud lifetime. Clouds efficiently reflect radiation back to space.

The indirect effect of aerosols on clouds and precipitation efficiency would be reduced, amplifying the greenhouse effect again.

### ***The Cloud Effect***

As global temperature rises, the ability of the air to hold moisture increases, and facilitation of cloud formation occurs. If the increase in cloud cover occurs at low or middle altitudes, resulting in clouds with greater liquid water path such as stratus or cumulus clouds, more radiation would be reflected back to space, resulting in a negative feedback, wherein the side effect of global warming acts to balance itself. If cloud formation occurs at higher altitudes in the form of cirrus clouds, these clouds actually allow more light to pass through than they reflect and ultimately, act as GHG themselves. Thus, resulting in a positive feedback wherein the side effect of global warming acts to enhance the process. This feedback mechanism, known as the Cloud Effect, is poorly understood.

### ***Other Feedback Mechanisms***

As global temperature continues to rise, methane gas, which is trapped in permafrost, would be released into the atmosphere. Methane is approximately 20 times as efficient a GHG as CO<sub>2</sub>. This phenomenon would accelerate and enhance the warming trend. Additionally, as polar and sea ice extent continues to diminish, the Earth's albedo, or reflectivity, would also decrease simultaneously. More incoming solar radiation would be absorbed by the Earth, rather than being reflected back to space, in turn, further enhancing the Greenhouse Effect and associated global warming. These, and other competing feedback mechanisms, are still in the process of being coupled and forecast by the scientific community. It is not known at this time how the ultimate balance between all the variables will be equated to a particular temperature increment. Regardless, there is no longer debate within the scientific community that anthropogenic GHG emissions are linked to a trajectory of unnatural warming of the planet.

## **EXISTING AIR QUALITY—INDOOR AIR POLLUTION**

Indoor air pollution sources that release gases or particles into the air are the primary cause of indoor air quality problems in buildings. Inadequate ventilation can increase indoor pollutant levels by not bringing in enough outdoor air to dilute emissions from indoor sources and by not carrying indoor air pollutants out. High temperature and humidity levels can also increase concentrations of some pollutants (EPA 2005b).

There are many sources of indoor air pollution in any building. Outdoor sources, such as radon, are of concern where new development is proposed. Residential exposure to indoor air pollution from outdoor (underground) sources occurs when vapors are volatilized from groundwater, migrate through soil vapor, and are introduced to indoor air.

Health effects from indoor air pollutants may be experienced soon after exposure or, possibly, years later. Long-term health effects may appear either years after brief exposure has occurred or only after long or repeated periods of exposure. These effects, which include some respiratory diseases, heart disease, and cancer, can be severely debilitating or fatal (EPA 2005b).

## **EXISTING AIR QUALITY—ODORS**

Typically odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities

of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

### **3.15.2 REGULATORY FRAMEWORK**

#### **CRITERIA AIR POLLUTANTS**

##### **Federal Plans, Policies, Regulations, and Laws**

At the federal level, EPA has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

The CAA required EPA to establish primary and secondary NAAQS (Table 3.15-1). The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility for reviewing all state SIPs to determine conformation to the mandates of the CAAA and determine whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) that imposes additional control measures may be prepared for the nonattainment area. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in application of sanctions to transportation funding and stationary air pollution sources in the air basin.

In addition, general conformity requirements were adopted by Congress as part of the CAAA and were implemented by EPA regulations in 1993. General conformity requires that all federal actions conform with the SIP as approved or promulgated by EPA. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine state or local efforts to achieve and maintain NAAQS. Before a federal action is taken, it must be evaluated for conformity with the SIP. All reasonably foreseeable emissions, both direct and indirect, predicted to result from the action are taken into consideration and must be identified as to location and quantity. If it is found that the action would create emissions above *de minimis* threshold levels specified in EPA regulations, or if the activity is considered regionally significant because its emissions exceed 10% of an area’s total emissions, the action cannot proceed unless mitigation measures are specified that would bring the project into conformance.

General conformity applies in both federal nonattainment and maintenance areas. Within these areas, it applies to any federal action not specifically exempted by the CAA or EPA regulations. Emissions from construction activities are also included. General conformity does not apply to projects or actions that are covered by the

transportation conformity rule. If a federal action falls under the general conformity rule, the federal agency responsible for the action is responsible for making the conformity determination. In some instances, a state will make the conformity determination under delegation from a federal agency. Private developers are not responsible for making a conformity determination, but can directly affected by a determination. General conformity with respect to the project will be determined before the record of decision is signed.

There are no federal regulations or policies regarding GHG emissions.

## **State Plans, Policies, Regulations, and Laws**

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). The CCAA, which was adopted in 1988, required ARB to establish CAAQS (Table 3.15-1). The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources, and provides districts with the authority to regulate indirect sources.

Other ARB responsibilities include overseeing compliance with California and federal laws by local air districts, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

### **Assembly Bill 32, the California Climate Solutions Act of 2006**

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Climate Solutions Act of 2006. AB 32 directs the California Environmental Protection Agency (Cal/EPA) to implement regulations for a cap on stationary sources of GHG emissions. The bill requires that Cal/EPA develop regulations to reduce emissions with an enforcement mechanism to ensure that the reductions are achieved, and to disclose how it arrives at the cap. It also includes conditions to ensure businesses and consumers are not unfairly affected by reductions.

AB 32 requires Cal/EPA to work with state agencies to:

- ▶ promulgate and implement a GHG emissions cap for the electric power, industrial, and commercial sectors through regulations in an economically efficient manner;
- ▶ institute a schedule of GHG reductions;
- ▶ develop an enforcement mechanism for reducing GHGs; and
- ▶ establish a program to track and report GHG emission levels.

AB 32 codifies the state's goal by requiring that statewide GHG emissions from stationary sources be reduced to 1990 levels by the year 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 appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels. AB 32 applies to stationary sources of emissions only, and does not mandate any requirements for mobile- or area-source emissions.

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

### Sacramento Metropolitan Air Quality Management District

SMAQMD attains and maintains air quality conditions in Sacramento County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy of SMAQMD includes the preparation of plans for the attainment of ambient air-quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. SMAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA and amendments thereof (CAAA), and the CCAA.

In July 2004, SMAQMD released a revision to the previously adopted guidelines document (SMAQMD 1994). This revised *Guide to Air Quality Assessment* (SMAQMD 2004) is an advisory document that provides lead agencies, consultants, and project applicant(s) with uniform procedures for addressing air quality in environmental documents. The handbook contains the following applicable components:

- ▶ criteria and thresholds for determining whether a project may have a significant adverse air quality impact;
- ▶ specific procedures and modeling protocols for quantifying and analyzing air quality impacts;
- ▶ methods available to mitigate air quality impacts; and
- ▶ information for use in air quality assessments and environmental impact reports (EIRs) that will be updated more frequently such as air quality data, regulatory setting, climate, and topography.

As mentioned above, SMAQMD adopts rules and regulations. All projects are subject to SMAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the project may include, but are not limited to, the following:

- ▶ **Rule 201: General Permit Requirements.** Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from SMAQMD before equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or heater should contact SMAQMD early to determine whether a permit is required, and to begin the permit application process. Portable construction equipment (e.g., generators, compressors, pile drivers, lighting equipment) with an internal combustion engine over 50 horsepower (hp) are required to have a SMAQMD permit or ARB portable equipment registration.
- ▶ **Rule 403: Fugitive Dust.** The developer or contractor is required to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project site.
- ▶ **Rule 442: Architectural Coatings.** The developer or contractor is required to use coatings that comply with the volatile organic compound (VOC) content limits specified in the rule.
- ▶ **Rule 902: Asbestos.** The developer or contractor is required to notify SMAQMD of any regulated renovation or demolition activity. Rule 902 contains specific requirements for surveying, notification, removal, and disposal of asbestos-containing material.

In addition, effective as of October 10, 2005, if modeled construction-generated emissions for a project are not reduced to SMAQMD's threshold of significance (85 pounds per day [lb/day]) by the application of the standard construction mitigation, then an off-site construction mitigation fee is recommended. The fee must be paid before a grading permit can be issued. This fee is used by SMAQMD to purchase off-site emissions reductions. Such purchases are made through SMAQMD's Heavy Duty Incentive Program, through which select owners of heavy-

duty equipment in Sacramento County can repower or retrofit their old engines with cleaner engines or technologies.

## **Rancho Cordova General Plan**

Goals and policies of the *Rancho Cordova General Plan* relating to air quality that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

## **Air Quality Plans**

SMAQMD, in coordination with the air quality management districts and air pollution control districts of El Dorado, Placer, Solano, Sutter, and Yolo Counties, prepared and submitted the 1991 *Air Quality Attainment Plan* (AQAP) in compliance with the requirements set forth in the CCAA, which specifically addressed the nonattainment status for ozone and, to a lesser extent, CO and PM<sub>10</sub>. Sacramento County is currently designated as a nonattainment area for both the national and state ozone (1-hour) and PM<sub>10</sub> (24-hour) standards (ARB 2006a). In addition, the area is also recommended as a serious nonattainment area for the national ozone (8-hour) standard (ARB 2006a).

The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the AQAP must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the 1994 *Ozone Attainment Plan* (OAP). The OAP stresses attainment of ozone standards and focuses on strategies for reducing ROG and NO<sub>x</sub> emissions. It promotes active public involvement, enforcement of compliance with SMAQMD rules and regulations, public education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) within the region, and implementation of stationary- and mobile-source control measures. The OAP became part of the SIP in accordance with the requirements of the CCAA and amended the 1991 AQAP. However, at that time the region could not show that the national ozone (1-hour) standard would be met by 1999. In exchange for moving the deadline to 2005, the region accepted a designation of “severe nonattainment” coupled with additional emission requirements on stationary sources. Additional triennial reports that acted as incremental updates were also prepared in 1997, 2000, and 2003 in compliance with the CCAA.

As a nonattainment area, the region is also required to submit rate-of-progress milestone evaluations in accordance with the CCAA. Milestone reports were prepared for 1996, 1999, and 2002. These milestone reports include demonstrations that the requirements for compliance have been met for the Sacramento nonattainment area. The air quality attainment plans and reports present comprehensive strategies to reduce ROG, NO<sub>x</sub>, and PM<sub>10</sub> emissions from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of California Environmental Quality Act (CEQA) participation; implementation of a new and modified indirect-source-review program; adoption of local air quality plans; and stationary-, mobile-, and indirect-source control measures.

In July 1997, EPA promulgated a new 8-hour ozone standard. This change lowered the standard for ambient ozone from 0.12 ppm averaged over 1 hour to 0.08 ppm averaged over 8 hours. In general, the 8-hour standard is more protective of public health and more stringent than the 1-hour standard. The promulgation of this standard prompted new designations and nonattainment classifications in June 2004, resulting in the revocation of the 1-hour standard on June 15, 2005. As stated above, the region has been designated as a nonattainment (serious) area for the national (8-hour) ozone standard with an attainment deadline of June 2013.

Although the region has made significant progress in reducing ozone, a problem has arisen with regard to another requirement set forth in the CAA. The region’s transportation plan must conform and thus show that it does not harm the region’s chances of attaining the ozone standard. The SIP is tied to a “motor vehicle emissions budget”; transportation planners must ensure that emissions anticipated from plans and improvement programs remain

within this budget. The region is not required to update the SIP before the ozone (8-hour) plans are due in 2006. However, since a conformity lapse began on October 4, 2004, an expedited process to prepare a plan is under way (SMAQMD 2005).

## **Toxic Air Contaminants**

It is important to understand that TACs are not considered criteria air pollutants and thus are not specifically addressed through the setting of ambient air quality standards. Instead, EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (MACT and BACT) to limit emissions. These in conjunction with additional rules set forth by SMAQMD establish the regulatory framework for TACs (see discussion under “State and Local Toxic Air Contaminant Programs” below).

## **Federal Hazardous Air Pollutant Program**

Title III of the CAA requires EPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP may differ for major sources than for area sources of HAPs. (Major sources are defined as stationary sources with potential to emit more than 10 tons per year [TPY] of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources.) The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring MACT. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), EPA is required to promulgate health risk–based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The CAAA required EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum emissions of benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1, 3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions.

## **State and Local Toxic Air Contaminant Programs**

The State of California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [1983]) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [1987]). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and has adopted EPA’s list of HAPs as TACs. Most recently, diesel PM was added to the ARB list of TACs.

Once a TAC is identified, ARB adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

ARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In

February 2000, ARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These new rules and standards provide for:

- ▶ more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines;
- ▶ zero-emission bus demonstration and purchase requirements applicable to transit agencies; and
- ▶ reporting requirements under which transit agencies must demonstrate compliance with the urban-transit bus-fleet rule.

Upcoming milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

At the local level, air pollution control or management districts may adopt and enforce ARB's control measures. Under SMAQMD Rule 201 ("General Permit Requirements"), Rule 202 ("New Source Review"), and Rule 207 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new-source review standards and air-toxics control measures. SMAQMD limits emissions and public exposure to TACs through a number of programs. SMAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Sources that require a permit are analyzed by SMAQMD (e.g., health risk assessment) based on their potential to emit toxics. If it is determined that the project will emit toxics in excess of SMAQMD's threshold of significance for TACs (identified below), sources have to implement the BACT for TACs (T-BACT) to reduce emissions. If a source cannot reduce the risk below the threshold of significance even after T-BACT has been implemented, the SMAQMD will deny the permit required by the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new technology when retrofitting with respect to TACs.

## **Odors**

In 1991 SMAQMD adopted a nuisance rule that addresses odor exposure. Rule 402 states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or to the public, or that endanger the comfort, repose, health, or safety of any such persons, or the public, or that cause to have a natural tendency to cause injury or damage to business or property. The provisions of Rule 402 do not apply to odors emanating from agricultural operations necessary for the growing of crops or raising of fowl or animals.

SMAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine whether the project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code, and thus would constitute a public nuisance related to air quality.

## **Atmospheric Greenhouse Gases**

There are no regional or local policies, regulations, or laws pertaining to GHG emissions.

### 3.15.3 ENVIRONMENTAL CONSEQUENCES

#### THRESHOLDS OF SIGNIFICANCE

For the purpose of this analysis, the following thresholds of significance, derived from the State CEQA Guidelines (Appendix G) and advisory CEQA thresholds suggested by SMAQMD, have been used to determine whether implementation of the project or alternatives under consideration would result in significant air quality impacts.

Based on Appendix G of the State CEQA Guidelines, an air quality impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ conflict with or obstruct implementation of the applicable air quality plan,
- ▶ violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- ▶ result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is nonattainment under any applicable national or state ambient air quality standards (including releasing emissions that exceed quantitative thresholds for ozone precursors),
- ▶ expose sensitive receptors to substantial pollutant concentrations, or
- ▶ create objectionable odors affecting a substantial number of people.

As stated in Appendix G, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. Based on SMAQMD's *Guide to Air Quality Assessment in Sacramento County* (SMAQMD 2004), an air quality impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ generate construction-related criteria air pollutant or precursor emissions that exceed the SMAQMD-recommended threshold of 85 lb/day for NO<sub>x</sub>, or result in or substantially contribute (at a level equal to or greater than 5%) to emissions concentrations (e.g., 50 µg/m<sup>3</sup> and 2.5 µg/m<sup>3</sup> for PM<sub>10</sub>, respectively) that exceed the NAAQS or CAAQS;
- ▶ generate long-term regional criteria air pollutant or precursor emissions that exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, or result in or substantially contribute (at a level equal to or greater than 5%) to emissions concentrations (e.g., 50 µg/m<sup>3</sup> and 2.5 µg/m<sup>3</sup> for PM<sub>10</sub>, respectively) that exceed the NAAQS or CAAQS;
- ▶ generate local mobile-source emissions that result in or substantially contribute to CO concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm;
- ▶ expose sensitive receptors to TAC emissions that exceed 10 in 1 million for the carcinogenic risk (i.e., the risk of contracting cancer) and/or a noncarcinogenic Hazard Index of the Maximally Exposed Individual (MEI) ;
- ▶ expose sensitive receptors to excessive nuisance odors, as defined under SMAQMD Rule 402 (see "Odors" under "Regional and Local Plans, Policies, Regulations, and Laws" above); or

- ▶ expose construction workers or future residents to hazardous indoor air pollutant emissions that exceed  $10^{-4}$  for the cumulative carcinogenic site risk and/or a noncarcinogenic hazard quotient of 1 based on reasonable maximum exposure for both current and future land use<sup>1</sup> (ENSR International [ENSR] 2004).

Regarding GHG, the SMAQMD has not identified a significance threshold. Further, it appears that no other air district in California has generated a significance threshold pertaining to GHG. The state has identified emissions in the year 1990 as a goal through adoption of AB 32. If this goal is attained, California would generate less GHG than today. It is recognized, though, that there is no simple metric available to determine if a single project would advance toward or away from this goal. Because GHG are global, a project that shifts the location of where someone lives or works, by itself, may or may not contribute new GHG. For example, someone may move from Southern California (and from the South Coast Air Quality Management District) to the project site, and while this would likely increase emissions within the Sacramento Metropolitan Air Quality Management District, it is not conclusive that this would result in generation of more GHG globally. In fact, if a person moves from one location, where they have long commutes and a land use pattern that requires substantial energy use, to a project that promotes shorter and fewer vehicle trips, more walking and less energy use, it could be argued that the new project would result in a potential reduction in generation of global GHG.

A possible metric that could be used to determine if this project would contribute to global GHG would be to determine if, on a per capita basis, this project would generate more GHG than a benchmark level based on a policy, in this case AB 32. Although AB 32 would only directly apply to stationary sources of emissions, mobile- and area-source emissions generated by a project can be addressed on a per capita basis, in order to be consistent with statewide goals to reduce global warming impacts. A project would increase GHG above the 1990 goal if it would result in generation of more than 2 tons of CO<sub>2</sub> per capita annually. This figure is the calculated per-capita CO<sub>2</sub> emissions level generated in California in 1990, discounted because the state's population has grown considerably since 1990 and is projected to continue to grow. The basis for this number is discussed further below.

For this document, a project's contribution to GHG would be considered significant if it would generate a substantial increase in GHG based on whether it exceeded the 2 tons per person metric, the degree to which this metric would be exceeded, and whether the number of persons inhabiting the site would be substantial.

## **ANALYSIS METHODOLOGY**

Short-term construction-generated emissions of criteria air pollutants (e.g., PM<sub>10</sub>) and ozone precursors (ROG and NO<sub>x</sub>) were assessed in accordance with methods recommended by SMAQMD. Where quantification is required, emissions were modeled using the URBEMIS 2002 Version 8.7.0 and EMFAC2002 Version 2.2 computer models (ARB 2002a, 2002b), and other emission factors and recommended methodologies from SMAQMD's *Guide to Air Quality Assessment in Sacramento County* (SMAQMD 2004). The use of these models determined whether short-term construction-generated emissions of criteria air pollutants would exceed applicable thresholds and where mitigation would be required. Modeling was based on project-specific data where available (e.g., estimated duration of construction, amount of land to be disturbed/graded, types of equipment to be used, number of construction employees), and URBEMIS default settings and SMAQMD recommendations where project-specific data were not available. Predicted short-term construction-generated emissions were compared with applicable SMAQMD thresholds for determination of significance.

According to SMAQMD, short-term construction-generated ROG emissions should be modeled; however, SMAQMD has not established a threshold to determine the significance of such emissions. Thus, in accordance with methodologies recommended by SMAQMD, short-term construction-generated ROG emissions are modeled and presented for informational purposes only. SMAQMD bases this approach on the fact that ROG emissions

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<sup>1</sup> The upper boundary of the risk range is not a discrete line at  $1 \times 10^{-4}$ , although EPA generally uses  $1 \times 10^{-4}$  in making risk management decisions. A specific risk estimate around  $10^{-4}$  may be considered acceptable if justified based on site-specific conditions (ENSR International 2004).

attributable to construction equipment exhaust are low and those from application of architectural coatings are regulated by Rule 442 (Christensen, pers. comm., 2005).

Long-term (i.e., operational) regional emissions of criteria air pollutants and precursors, including mobile- and area-source emissions, were also quantified using the URBEMIS 2002 Version 8.7.0 computer model. Modeling was based on project-specific data (e.g., size and type of proposed uses), URBEMIS default settings, and trip generation data from the traffic analysis. Long-term stationary-source emissions were qualitatively assessed in accordance with methodologies recommended by SMAQMD. Predicted long-term operational emissions were compared with applicable SMAQMD thresholds for determination of significance.

GHG emissions associated with the project were estimated using CO<sub>2</sub> emissions as a proxy for all GHG emissions. This is consistent with the current reporting protocol of the California Climate Action Registry. CO<sub>2</sub> emissions associated with vehicle miles traveled are the best indicator of GHGs associated with a land development project. However, it is important to note that other GHGs have a higher Global Warming Potential (GWP) than CO<sub>2</sub>. For example, 1 pound of methane has an equivalent GWP of 21 pounds of CO<sub>2</sub> (EPA 2002, California Climate Action Registry [2006]). In other words, as a GHG, methane is 21 times as efficient as CO<sub>2</sub>. Nonetheless, emissions of other GHGs would be low relative to CO<sub>2</sub>, and would be roughly proportional to VMT as well. Annual VMT/person for the year 1990 was estimated based on 1989 census data, and this rate corresponds to an annual rate of 8,703 VMT/person. Based on a fleetwide emission factor for the year 1990, this would result in a statewide annual emission rate of approximately 3.5 tons CO<sub>2</sub>/person associated with vehicle miles traveled (ARB 2002c). In addition, population growth must also be considered, in order to obtain the 1990 emissions target. The population of the state is forecast to grow to 43,851,741 people by the year 2020 (California Department of Finance [DOF] 2006). In order to achieve the mass of emissions that occurred in 1990, the emission rate per capita must be further reduced to compensate for increased VMT associated with increased population growth. Thus, the annual rate must be reduced by approximately 33% below the 1990 rate, to approximately 2 Tons CO<sub>2</sub>/person, in order to achieve the 1990 baseline promulgated by AB 32.

All other air quality impacts (i.e., local mobile-source emissions, exposure of sensitive receptors to TAC and odorous emissions, and indoor air quality) were assessed in accordance with methodologies recommended by SMAQMD.

## IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

### Program Level Impacts and Mitigation Measures

<b>IMPACT</b> 3.15-1	<i>Generation of Temporary, Short-Term Construction Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Construction activities associated with the project would generate temporary, short-term emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Because of the large size of the project, construction-generated emissions of NO<sub>x</sub>, an ozone precursor, would exceed SMAQMD-recommended thresholds and would substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS.</i>
PP	Construction emissions are described as short term or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially in the case of PM <sub>10</sub> . Fugitive-dust emissions are associated primarily with site preparation and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, VMT on- and off-site, and other factors. Emissions of the ozone precursors ROG and NO <sub>x</sub> are associated primarily

with construction equipment exhaust and the application of architectural coatings.

Under the Proposed Project Alternative, construction activities would temporarily generate emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> from grading, excavation, filling, trenching, paving, laying of concrete foundations, application of architectural coatings, heavy-duty equipment exhaust, motor vehicle exhaust from construction employees' commute trips, and material transport (especially on unpaved surfaces) from construction of approximately 11,600 residential units, 239 acres of commercial development, 282 acres of industrial development, and 152 acres of educational development.

SMAQMD has developed screening-level values for the size and type of land use development that would likely result in potentially significant emissions of NO<sub>x</sub> during construction (e.g., 28 units of single-family residential). With respect to buildout of the project, there would be approximately 285 times the screening-level value for single-family residences, 118 times the value for development of education-related land uses, and 218 times the value for development of industrial land uses. Thus, because of the large size of the project (approximately 3,800 acres), construction-generated NO<sub>x</sub> emissions would exceed the SMAQMD-recommended threshold of 85 lb/day; as NO<sub>x</sub> is an ozone precursor, such emissions would substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS. In addition, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County of Sacramento (County), and the other issued by the City of Rancho Cordova (City)—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Such activities would contribute approximately 84 lb/day of NO<sub>x</sub> associated with these activities (City of Rancho Cordova 2005).

With respect to PM<sub>10</sub> emissions, SMAQMD has also developed screening-level values related to the maximum actively disturbed area of the project site. According to these values, if more than 15 acres would be actively disturbed, even with the implementation of the recommended mitigation measures, project construction would likely result in potentially significant emissions. Thus, because of the large size of the project (3,800 acres), construction-generated PM<sub>10</sub> emissions would result in or substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS. As a result, this temporary, short-term impact would be **significant** and **direct**. **No indirect** impacts would occur.

- HD Under the High Density Alternative, approximately the same footprint of land would be disturbed as under the Proposed Project Alternative, but a higher density of dwelling units would be constructed on that same acreage (approximately 4,000 additional units, for a total of 15,488 residential units). The High Density Alternative would likely require mobilization of slightly more construction equipment than the Proposed Project Alternative. Therefore, this impact would be **direct and significant** and would occur at a greater level than under the Proposed Project Alternative. **No indirect** impacts would occur. [*Greater*]
- IM Impacts under the Impact Minimization Alternative would be somewhat less (approximately 500 acres less) than those under the Proposed Project Alternative because this alternative would involve more preservation of wetlands. Approximately 1,000 fewer residential units (for a total of 10,600 residential units) would be constructed. Therefore, this impact would be **direct** and **significant** but would occur at a lesser level than under the Proposed Project Alternative. **No indirect** impacts would occur. [*Lesser*]

NF Impacts under the No Federal Action Alternative would be less than under the Proposed Project Alternative, and would be similar to those under the Impact Minimization Alternative, as discussed above. This alternative would involve 835 acres for preservation of natural resources. Approximately 835 fewer residential units would be developed (for a total of 10,765 residential units). Therefore, this impact would be **direct** and **significant** but would occur at a lesser level than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. PM<sub>10</sub> emissions from equipment used during mining operations could exceed SMAQMD standards. However, the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) contain mitigation measures to reduce PM<sub>10</sub> emissions. As mitigated, indirect impacts from mining activities would not exceed SMAQMD standards for other criteria pollutants.

Because no project-related development would occur under the No Project Alternative, no project-related emissions would result; thus, **no direct or indirect impacts** would occur. *[Lesser]*

#### Mitigation Measure 3.15-1: Implement Measures to Control Construction-Generated Air Pollutant Emissions.

PP, HD, IM, NF To reduce short-term construction emissions, the project applicant(s) for all project phases shall implement the measures described below. In addition to the measures identified below, construction operations shall comply with all applicable SMAQMD rules and regulations.

- ▶ Phase 1 of all action alternatives for Rio del Oro would result in construction-generated emissions that exceed the SMAQMD threshold of significance, even after implementation of the SMAQMD “standard construction mitigation.” Therefore, the project applicant(s) shall pay SMAQMD an off-site mitigation fee for implementation of any of these alternatives for the purpose of reducing impacts to a less-than-significant level. The specific fee amounts shall be calculated when the construction emissions can be more accurately determined. This calculation would occur when an alternative has been selected, the project has been approved, and the Phase 1 improvement plans have been prepared. Calculation of fees associated with future, subsequent project phases shall be conducted before the approval of grading plans. It is estimated, based on information available at this time, that the off-site construction mitigation fees would range from \$4,404,845 to \$5,461,587 for development Phase 1, depending on which alternative is selected.
- ▶ The project applicant(s) for all project phases shall pay into SMAQMD’s off-site construction mitigation fund to further mitigate construction-generated emissions of NO<sub>x</sub> that exceed SMAQMD’s daily emission threshold of 85 lb/day. The calculation of daily NO<sub>x</sub> emissions is based on the current cost of \$14,300 to reduce 1 ton of NO<sub>x</sub>. The determination of the final mitigation fee shall be conducted in coordination with SMAQMD before any demolition or ground disturbance occurs for any project phase.
- ▶ Calculation of and payment of the fee for development Phase 1 and all subsequent project phases shall also be included in the Mitigation Monitoring and Reporting Program (MMRP) for the project.

- ▶ The project applicant(s) for all project phases shall reduce NO<sub>x</sub> and visible emissions from heavy-duty diesel equipment by implementing the following measures:
  - A plan shall be developed for approval by the City, in consultation with SMAQMD, demonstrating that the heavy-duty (>50 hp), off-road vehicles to be used in the construction project (including owned, leased, and subcontractor vehicles) will achieve a projectwide fleet-average 20% NO<sub>x</sub> reduction and 45% particulate reduction compared to the most recent ARB fleet average at the time of construction. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, particulate-matter traps, engine retrofit technology, after-treatment products, and/or such other options as become available.
  - A comprehensive inventory of all off-road construction equipment equal to or greater than 50 hp that shall be used for an aggregate of 40 or more hours during any portion of project construction shall be submitted to the City and SMAQMD. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction operations occur. At least 48 hours before heavy-duty off-road equipment is used, the project applicant(s) shall provide SMAQMD with the anticipated construction timeline, including the start date, and the name and phone number of the project manager and on-site foreman.
  - Emissions from off-road, diesel-powered equipment used on the project site shall not exceed 40% opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40% opacity (or Ringlemann 2.0) shall be repaired immediately, and SMAQMD shall be notified of noncompliant equipment within 48 hours of identification. A visual survey of all in-operation equipment shall be made at least weekly. A monthly summary of visual survey results shall be submitted to SMAQMD throughout the duration of the construction project, except that the monthly summary shall not be required for any 30-day period in which no construction operations occur. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. SMAQMD and/or other officials may conduct periodic site inspections to determine compliance.
  - Emulsified diesel or diesel catalysts shall be used on applicable heavy-duty construction equipment.
  - All of the above measures shall be included in all construction plans and specifications.
  - Payment into SMAQMD's construction mitigation fund to offset construction-generated emissions of NO<sub>x</sub> that exceed SMAQMD's daily emission threshold of 85 lb/day shall be made. The calculation of daily NO<sub>x</sub> emissions, for determination of offset fee mitigation, shall be conducted in coordination with SMAQMD and shall be based on the construction plan and equipment inventory to be prepared by the project representative.
- ▶ As recommended by SMAQMD, the project applicant(s) for all project phases shall reduce fugitive-dust emissions by implementing the following measures:
  - Dust emissions on all disturbed areas, including storage piles that are not being actively used for construction purposes, shall be effectively stabilized using water, a chemical stabilizer or suppressant, or vegetative ground cover (keeping soil moist at all times).

- Dust emissions on all on- and off-site unpaved access roads shall be effectively stabilized using water or a chemical stabilizer or suppressant.
- When materials are transported off-site, such materials shall be covered and effectively wetted to limit visible dust emissions, and at least 2 feet of freeboard space shall be maintained from the top of the container.
- The accumulation of project-generated mud or dirt from adjacent public streets shall be limited or expeditiously removed at least once every 24 hours when operations are occurring. After materials are added to or removed from the surfaces of outdoor storage piles that have the potential for fugitive-dust emissions, such storage piles shall be effectively stabilized using sufficient water or a chemical stabilizer or suppressant.
- On-site vehicle speeds on unpaved roads shall be limited to 15 mph.
- Wheel washers shall be installed for all trucks and equipment exiting unpaved areas, or wheels shall be washed to remove accumulated dirt before such vehicles leave the site.
- Sandbags or other erosion control measures shall be installed to prevent runoff of silt to public roadways from adjacent project areas with a slope greater than 1%.
- Excavation and grading activities, except soil stabilization activities, shall be suspended when winds exceed 20 mph. The extent of areas simultaneously subject to excavation and grading shall be limited to the minimum area feasible.

**Timing:** Before the approval of all grading plans and throughout project construction for all project phases.

**Enforcement:** City of Rancho Cordova Public Works and Planning Departments and Sacramento Metropolitan Air Quality Management District.

**NP** No mitigation measures are required.

Implementation of Mitigation Measure 3.15-1 would reduce construction-generated emissions of NO<sub>x</sub> and PM<sub>10</sub> from on-site heavy-duty equipment exhaust by approximately 20% and 45%, respectively, under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. It would also reduce emissions of fugitive PM<sub>10</sub> by 75% under these alternatives. However, daily construction emissions would still exceed SMAQMD's significance threshold for NO<sub>x</sub>, resulting in or substantially contributing to emissions concentrations that exceed the NAAQS or CAAQS (e.g., ozone and PM<sub>10</sub>). As a result, the direct impact of short-term, temporary construction-generated emissions from the project would remain **significant and unavoidable**.

**IMPACT  
3.15-2**

*Generation of Long-Term Operational (Regional) Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Operational area- and mobile-source emissions from implementation of the project would exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, and would result in or substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS. In addition, because of the large increase in emissions associated with project buildout and the fact that the project is not within an already approved plan (which means that increased emissions would not already be accounted for in applicable air quality plans), project implementation could conflict with air quality planning efforts.*

**PP** Operation of the project would result in long-term regional emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> associated with area sources, such as natural-gas emissions, landscaping, applications of architectural coatings, and use of consumer products, in addition to operational vehicle-exhaust

emissions. Project buildout would generate approximately 228,557 vehicle trips (1,439,911 VMT) (Fehr & Peers 2005). See Section 3.14, "Traffic and Transportation," for further discussion.

Similar to the screening-level values discussed above for construction, SMAQMD has developed screening-level values for the size and type of land use development that would likely result in potentially significant emissions of NO<sub>x</sub> during project operations (e.g., 656 units of single-family residential). Implementation of the Proposed Project Alternative would result in approximately 12 times the screening-level value for single-family residences, six times the value for development of education-related land uses, and 10 times the value for development of industrial land uses. Thus, because of the large size of the project (approximately 3,800 acres) and associated mobile and area sources introduced to the project area, operational emissions would exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, resulting in or substantially contributing to emissions concentrations that exceed the NAAQS or CAAQS. In addition, because of the large increase in emissions associated with project buildout and the fact that the project is not within an already existing approved plan (which means that increased emissions would not be accounted for in applicable air quality plans), implementation of the project could conflict with air quality planning efforts.

Implementation of the Proposed Project Alternative would also result in the operation of stationary sources of emissions such as emergency backup generators, and other stationary sources depending on the specific types of operations that would occur at the proposed commercial land uses. According to SMAQMD, stationary sources of air pollutant emissions that comply with the applicable regulations pertaining to BACT and offset requirements are not considered causes of significant air quality impacts (SMAQMD 2004). In fact, SMAQMD does not require the inclusion of such emissions in CEQA analyses unless the operation of a stationary source results in surplus emissions in excess of BACT and offsets (SMAQMD 2004). The stationary sources proposed as part of this project would not be considered major sources (e.g., power plants). They would be subject to SMAQMD permitting and BACT requirements and are not anticipated to result in any surplus stationary-source emissions (e.g., emissions in excess after BACT and offsets are applied). Also, because electricity-generating facilities for the Sacramento region either are located outside the area or are offset through the use of pollution credits, emissions resulting from energy use are not considered in this assessment in accordance with SMAQMD guidance (SMAQMD 2004).

In summary, operational area- and mobile-source emissions from implementation of the Proposed Project Alternative would exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, resulting in or substantially contributing to emissions concentrations that exceed the NAAQS or CAAQS. In addition, because the project is not within an approved plan area, project implementation could conflict with air quality planning efforts. As a result, this long-term, **direct** impact is considered **significant**. **No indirect** impacts would occur.

HD

Under the High Density Alternative, there would be a larger number of dwelling units (approximately 4,000 additional units, for a total of 15,488) than under the Proposed Project Alternative, on the same number of acres. Increased housing densities tend to generate fewer trips than lower density housing in a cumulative sense; however, the High Density Alternative includes increased commercial and industrial uses, which would generate more trips than the housing component. In addition, higher density residential uses have greater area-source emissions than single-family housing. Thus, operational sources of emissions would be slightly higher because of the larger number of people and vehicles, and increased urban-type land uses.

Thus, this **direct** impact would be **significant** and would occur at a greater level than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Greater]*

IM Impacts under the Impact Minimization Alternative would be slightly less than those under the Proposed Project Alternative. Because approximately 500 fewer acres of land would be developed, there would be fewer area sources and fewer operational sources of emissions. Thus, this **direct** impact would be **significant** but would occur at a lesser level than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Lesser]*

NF Impacts under the No Federal Action Alternative would be slightly less than those under the Proposed Project Alternative. Because approximately 800 fewer acres of land would be developed, there would be fewer area sources and fewer operational sources of emissions. Thus, this **direct** impact would be **significant** but would occur at a lesser level than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more individual Implementation Permits expected to be issued by the City. PM<sub>10</sub> emissions from equipment used during mining operations could exceed SMAQMD standards. The *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) contain mitigation measures to reduce PM<sub>10</sub> emissions. As mitigated, indirect impacts from mining activities would not exceed SMAQMD standards for other criteria pollutants.

Because no project-related development would occur under the No Project Alternative, no project-related emissions would result; thus, **no significant direct or indirect impacts** would occur. *[Lesser]*

#### Mitigation Measure 3.15-2: Implement Measures to Control Long-Term Operational (Regional) Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>.

PP, HD, IM, NF The project applicant(s) for all project phases shall submit a copy of the Operational Air Quality Plan developed in consultation with and approved by SMAQMD to the City. The Operational Air Quality Plan shall include measures to reduce operational air quality impacts associated with the project by a minimum of 15%, and these measures shall be included in the Rio del Oro Specific Plan. The project applicant(s) shall implement all measures included in the Operational Air Quality Plan. (The Operational Air Quality Plan is included in Appendix L of this DEIR/DEIS.)

**Timing:** Before the approval of grading plans and throughout project construction, as appropriate for all project phases.

**Enforcement:** City of Rancho Cordova Public Works, Building and Safety, and Planning Departments and Sacramento Metropolitan Air Quality Management District.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.15-2 would lessen long-term regional emissions by a minimum of approximately 15% under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. Some of the design measures identified to reduce operational emissions, such as mixed-use development and the creation of street and pedestrian connections, are already incorporated into the project; as mentioned previously, they are repeated in Mitigation Measure 3.15-2 to allow a comprehensive listing of both design and operational measures. However, even a reduction of 15% would not reduce ROG and NO<sub>x</sub> emissions

to levels below the SMAQMD-recommended significance threshold of 65 lb/day for ROG and NO<sub>x</sub>, or PM<sub>10</sub> emissions (as would be necessary for project implementation not to result in a substantial contribution to an air quality violation). Thus, increases in long-term regional emissions attributable to the project would be considered a significant and unavoidable impact. Implementation of the above-mentioned measures would substantially reduce the level of emissions from this source; however, because of the large size of the proposed development, emissions would still be expected to exceed the applicable thresholds. Thus, this impact would remain **significant and unavoidable**.

**IMPACT  
3.15-3**

**Generation of Local Mobile-Source CO Emissions.** *Project-generated local mobile-source CO emissions would not result in or substantially contribute to concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm.*

**PP**

The primary mobile-source pollutant of local concern is carbon monoxide. CO concentration is a direct function of vehicle idling time and thus of traffic-flow conditions. CO transport is extremely limited, as CO disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthy levels, affecting local sensitive receptors (residents, schoolchildren, hospital patients, or the elderly). In the past, high CO concentrations have typically been associated with roadways or intersections operating at an unacceptable level of service (LOS) (LOS E or worse). In areas currently experiencing high ambient background CO concentrations, it is recommended that CO concentrations be analyzed for receptors located near signalized roadway intersections that are projected to operate at LOS E or worse (Caltrans 1997).

Under specific-plan buildout conditions, some signalized intersections in the vicinity of the project area are predicted to operate at an unacceptable LOS (LOS E or worse) in addition to those intersections analyzed in Impact 3.15-8 below (Fehr & Peers 2005). Because of stricter vehicle emissions standards in newer cars, new technology, and increased fuel economy, future CO emission factors under buildout conditions would be substantially lower than those used in the analysis of local mobile-source CO emissions for development Phase 1 (see Impact 3.15-9 below), for which modeled concentrations were below recommended thresholds. Thus, even though implementation of the project at buildout would result in more trips than implementation of development Phase 1, project-generated local mobile-source CO emissions would likewise not result in or substantially contribute to concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm. This is considered a **less-than-significant, direct** impact. **No indirect** impacts would occur.

**HD**

More traffic would be generated under the High Density Alternative than under the Proposed Project Alternative, with a higher density of population within the same developed acreage. Approximately 16,000 more trips per day would be generated under the High Density Alternative than under the Proposed Project Alternative. Even if all of these vehicles were to arrive at the worst-case intersection, as analyzed under Impact 3.15-9 below, during p.m. peak-hour traffic conditions, CO concentrations still would not exceed the 1-hour or 8-hour ambient air quality standards (see supporting calculations in Appendix K). Therefore, it is not expected that a substantial increase in CO concentrations would result under this alternative as compared with implementation of the Proposed Project Alternative; however, there would be slightly higher localized ambient CO concentrations generated at affected intersections.

Therefore, **direct** impacts would be **less than significant** but would occur at a slightly greater level than under the Proposed Project Alternative. **No indirect** impacts would occur. *[Greater]*

- IM Impacts under the Impact Minimization Alternative would be slightly less than those under the Proposed Project Alternative because slightly less traffic would be generated under this alternative. However, because nearly the same amount and types of land uses are proposed, it is anticipated that local CO concentrations would be approximately the same as under the Proposed Project Alternative. This would represent a **direct, less-than-significant** impact. **No indirect** impacts would occur. *[Similar]*
- NF Impacts under the No Federal Action Alternative would be slightly less than those under the Proposed Project Alternative because slightly less traffic would be generated under this alternative. However, because nearly the same amount and types of land uses are proposed under this alternative, it is anticipated that local CO concentrations would be approximately the same as under the Proposed Project Alternative. This would represent a **direct, less-than-significant** impact. **No indirect** impacts would occur. *[Similar]*
- NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. The *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) did not indicate that CO emissions would exceed ambient air quality standards.
- Because no project-related development would occur under the No Project Alternative, no project-related emissions would result; thus, **no significant direct or indirect impacts** would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.15-4**

**Exposure of Sensitive Receptors to Short- and Long-Term Emissions of Toxic Air Contaminants.**  
*Project implementation would result in exposure of receptors to short- and long-term emissions of TACs from on-site mobile and stationary sources.*

- PP The exposure of sensitive receptors (e.g., existing and proposed residential units, schools, and parks) to TAC emissions from existing and proposed mobile and stationary sources is discussed below.

**Short-Term Emissions from Construction Equipment**

Project construction would result in short-term emissions of diesel exhaust from on-site heavy-duty equipment. Emissions of particulate exhaust from diesel-fueled engines (diesel PM) were identified as a TAC by ARB in 1998. Construction of the project would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities. As described above, the dose to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (Salinas, pers. comm., 2004). The use of mobilized equipment would be temporary and there are no sensitive receptors currently located on or adjacent to the project site. However, new residents would be occupying the site concurrently with on-site construction activities. Even with the dispersive properties of

diesel PM (Zhu et al. 2002), short-term construction activities could expose sensitive receptors to levels that exceed applicable standards because of the close proximity between on-site heavy-duty equipment and residents. Therefore, this **direct** impact is considered **potentially significant**. **No indirect** impact would occur.

### Emissions from Stationary Sources

Long-term operation of this alternative would likely include the installation of diesel-fueled emergency backup generators at some of the proposed land uses. This category of stationary source, in addition to any other stationary sources that may emit TACs, would be subject to SMAQMD permitting and T-BACT requirements. Thus, as discussed above, SMAQMD would analyze such sources (e.g., in a health risk assessment) based on their potential to emit TACs. If it is determined that the sources would emit TACs in excess of SMAQMD's applicable threshold of significance, T-BACT would be implemented to reduce emissions. If the implementation of T-BACT would not reduce the risk below the applicable threshold, then SMAQMD would deny the required permit. As a result, operation of any stationary sources would not result in the exposure of sensitive receptors to TACs at levels exceeding SMAQMD's significance threshold. Therefore, this **direct** impact is considered **less than significant**. **No indirect** impact would occur.

### Airport-Related Emissions

In recent years there has been heightened scientific awareness and public debate over potential impacts that may result from the exposure of sensitive receptors to TAC emissions generated by aircraft and ground-support operations at and near airports. Sources of airport-related TAC emissions include aircraft (e.g., air carriers, commuter and cargo aircraft, and general aviation); ground-service equipment; fuel storage and handling; and other sources. TACs released by these sources include but are not limited to VOCs (acetaldehyde, formaldehyde, benzene, and 1, 3-butadiene); chromium; dioxins; polycyclic organic compounds (PAHs); tetrachloroethylene; nickel; and toluene.

Several studies and analyses have been performed in an effort to evaluate the risk posed by airport operations. In 1999 and 2000, public-initiated studies and analyses were released regarding toxic emissions from Chicago's O'Hare International Airport and associated health risks in surrounding residential communities. The overall findings of these analyses were that the cancer risks associated with operations at O'Hare Airport exceed 10 in 1 million over an area of approximately 40 square miles and 1 in 1 million over an area of approximately 1,000 square miles, assuming 70 years of exposure (KM Chng Environmental 1999, Environ 2000). These studies also identified the need for better assessment of the data utilized and recommended that comprehensive air monitoring be conducted around O'Hare Airport so that these data could be used to conduct a more complete and comprehensive analysis.

In response, the Illinois EPA in 2000 monitored TAC emissions in the vicinity of O'Hare Airport as well as other locations in the Chicago area from June to December, focusing on toxic compounds identified in EPA's national strategy and on mobile-source emissions associated with airport operations (Illinois Environmental Protection Agency 2002). The compounds of interest included volatile and semivolatile organics, carbonyls, and trace metals. The purpose of this program was to collect information that would help assess the relative impact of airport-generated emissions and toxic characteristics of large urban areas. One important objective of the monitoring program was to determine whether the emissions associated with O'Hare Airport have a measurable impact on air quality in areas adjacent to the airport. A review and analysis of the accumulated monitoring results found that the levels of toxic compounds (e.g., acetaldehyde and formaldehyde) attributable to airport operations were detected at monitoring sites. However,

the concentrations of such compounds were indistinguishable from (or lower than) typical urban background levels.

Overall, uncertainties in data and methods in the studies and analyses conducted so far, including those discussed above, have admittedly provided a poor foundation for airport-related health studies. More recently, in an effort to improve available data, a multiagency aircraft particle emissions experiment was established with participants from EPA, the National Aeronautics and Space Administration (NASA), the Federal Aviation Administration (FAA), the aviation industry (General Electric and Boeing), and the research community (Massachusetts Institute of Technology). The main focus is to test aircraft engines for TACs. Data from this study are anticipated to be released in 2006; updated emission factors will follow in approximately 2 years. These data, along with further monitoring around airports and validation of modeling results, will allow the compilation of more accurate emissions data into EPA models and identification of the proper characterization methods.

Based on the above discussion, it can be ascertained that the project, because of its proximity to Mather Airport (approximately 1 mile away at the nearest point on the project boundary), has the potential to expose sensitive receptors to TAC emissions to an extent that health risks could result. However, even though Mather Airport is quite modest in size compared to O'Hare International Airport, this issue is not well understood and is the subject of ongoing research, and any conclusions regarding health risks would be speculative. Therefore, a conclusion on the significance of the environmental impact cannot be reasonably reached. Section 15145 of the State CEQA Guidelines provides that if after a thorough investigation a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impacts. This is the case here. **No impact conclusion can be made** based on research of this issue.

#### Emissions from On-Site Operational Mobile Sources

On-site operational mobile sources of TAC emissions would be associated primarily with the operation of school buses transporting students to and from the proposed high, middle, and elementary schools, as well as diesel-powered delivery trucks associated with proposed on-site commercial activities.

Emissions from school buses can vary depending on various factors, including bus type, age, and maintenance, and the amount of time spent idling. Health impacts from exhaust exposure include eye and respiratory irritation, enhanced respiratory allergic reactions, exacerbation of asthma, increased cancer risk, and degradation of the immune system. Generally, children are more vulnerable than adults to air pollutants because of their higher inhalation rates, narrower airways, and less mature immune systems.

In response to this concern, ARB adopted an ATCM as part of the *Particulate Matter Risk Reduction Plan* specifically to deal with diesel emissions from school buses. This measure became effective July 16, 2003. The school bus-idling ATCM includes the following requirements:

- (a) The driver of a school bus or vehicle, transit bus, or heavy-duty vehicle (other than a bus) shall manually turn off the bus or vehicle upon arriving at a school and shall restart no more than 30 seconds before departing. A driver of a school bus or vehicle shall be subject to the same requirement when operating within 100 feet of a school and shall be prohibited from idling more than 5 minutes at each stop beyond schools, such as parking or maintenance facilities, school bus stops, or school activity destinations. A driver of a transit bus or heavy-duty vehicle (other than a bus) shall be prohibited from idling more than 5 minutes at each

stop within 100 feet of a school. Idling necessary for health, safety, or operational concerns shall be exempt from these restrictions.

- (b) The motor carrier of the affected bus or vehicle shall ensure that drivers are informed of the idling requirements, track complaints and enforcement actions, and keep track of driver education and tracking activities.

According to ARB, implementation of the above requirements would eliminate unnecessary idling for school buses and other heavy-duty vehicles, thus reducing localized exposure to emissions of TACs and other harmful pollutants at and near schools and protecting children from unhealthy exhaust emissions.

In addition to the school bus–idling ATCM, ARB has adopted an idling-restriction ATCM for large commercial diesel-powered vehicles. In accordance with this measure, which became effective February 1, 2005, affected vehicles are required to limit idling to no longer than 5 minutes under most circumstances. ARB is currently evaluating additional ATCMs intended to further reduce TACs associated with commercial operations, including a similar requirement to limit idling of smaller diesel-powered commercial vehicles. Nonetheless, given that proposed on-site commercial land uses have not yet been identified and given the potential proximity of nearby sensitive receptors, exposure of nearby on-site receptors to mobile-source TACs associated with commercial activities is considered a **potentially significant, direct** impact. **No indirect** impact would occur.

#### Emissions from Mining Activities

Aggregate mining and reclamation of certain portions of the project site will occur over a period of several years, and will involve the excavation and relocation or removal of portions of the existing deposits of dredge tailings. Mining operations will occur on approximately 180 acres on the eastern portion of the project site. Mining activities are separate actions from the project and will take place under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. However, mining operations will involve the use of diesel-fueled heavy-duty equipment on-site, for which particulate exhaust emissions are identified as a TAC. Thus, depending on the location of on-site mining activities in relation to proposed sensitive receptors, on-site mining activities could result in TAC emissions at levels that could result in a potential health hazard for sensitive receptors introduced to the project site before mining activities are completed. Therefore, this is considered a **potentially significant, direct** impact. **No indirect** impact would occur.

#### Land Use Compatibility

The Rio del Oro project would include proposed residences, schools, and parks. Because of the sensitivity of such uses, assessment of compatibility of surrounding land uses with respect to sources of TAC emissions is required.

ARB recently published the *Air Quality and Land Use Handbook: A Community Health Perspective* (ARB 2005c), which provides new guidance concerning land use compatibility with sources of TAC emissions. The handbook offers recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities. The handbook is advisory and not regulatory, but it offers the recommendations identified below that may be pertinent to the project.

- ▶ Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads carrying 100,000 vehicles per day, or rural roads carrying 50,000 vehicles per day.
- ▶ Avoid siting new sensitive land uses within 300 feet of a large gasoline station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gasoline-dispensing facilities.
- ▶ Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation using perchloroethylene (perc). For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult the local air district. Do not site new sensitive land uses in the same building with dry-cleaning operations that use perc.
- ▶ Obtain facility-specific information where there are questions about siting a sensitive land use close to an industrial facility, including the amount of pollutant emitted and its toxicity, distance to nearby receptors, and types of emissions controls in place.

The siting of proposed receptors within the project site would be consistent with all of the recommendations listed above, and thus would not result in the exposure of sensitive receptors to TACs that exceed the recommended thresholds.

As a result, the impact associated with the exposure of receptors to short-term TAC emissions would be considered a **less-than-significant, direct** impact. **No indirect** impact would occur. However, long-term exposure of sensitive receptors to TAC emissions from on-site mobile sources, specifically diesel-fueled trucks associated with educational and commercial land use activities, would result in a **potentially significant, direct** impact. **No indirect** impacts would occur.

- HD** Under the High Density Alternative, there may be a need for slightly more heavy-duty mobile equipment during construction than under the Proposed Project Alternative because of the increased density of structures. However, these emissions still would not exceed SMAQMD standards for TAC emissions. The same number of heavy-duty diesel-fueled vehicles would still be present on-site during operation of the High Density Alternative. This would result in a **direct** and **potentially significant** impact and would occur at nearly the same level as under the Proposed Project. **No indirect** impacts would occur. *[Similar]*
- IM** Impacts under the Impact Minimization Alternative would be approximately the same as under the Proposed Project Alternative because a similar number of heavy-duty diesel-fueled vehicles would be present on-site during construction and operation of this alternative. This would represent a **direct, potentially significant** impact and would occur at nearly the same level as under the Proposed Project Alternative. **No indirect** impacts would occur. *[Similar]*
- NF** Impacts under the No Federal Action Alternative would be approximately the same as under the Proposed Project Alternative because a similar number of heavy-duty diesel-fueled vehicles would be present on-site during construction and operation of this alternative. This would represent a **direct, potentially significant** impact and would occur at nearly the same level as under the Proposed Project Alternative. **No indirect** impacts would occur. *[Similar]*
- NP** Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more individual Implementation Permits expected to be issued by the City. See the discussion under “Mining” under Impact 3.15-4 above.

Because the project site would remain in its current state under the No Project Alternative and no sources of TAC emissions would be encountered, **no direct or indirect impacts** would occur. *[Lesser]*

**Mitigation Measure 3.15-4: Develop a Plan to Reduce Emissions and Implement Measures to Control Exposure of Sensitive Receptors to Toxic Air Emissions.**

PP, HD, IM, NF The project applicant(s) for all project phases shall develop a plan to reduce the exposure of sensitive receptors to TACs from project construction and operation. The plan shall be submitted to the City for review and approval before the approval of any grading plans.

With respect to project construction, the plan may include such measures as scheduling activities when the residences are the least likely to be occupied, requiring equipment to be shut off when not in use, and prohibiting heavy trucks from idling. Applicable measures shall be included in all project plans and specifications for all project phases.

With respect to project operation for all project phases, the plan may include such measures as the following:

- ▶ Before the issuance of any certificates of occupancy or final inspections for on-site sensitive land uses (e.g., residences, schools) in close proximity to mining operations (i.e., within 1,000 feet), the City shall ensure that associated mining activities have concluded.
- ▶ Proposed commercial/convenience land uses (e.g., loading docks) that have the potential to emit TACs shall be located as far away as possible from existing and proposed sensitive receptors (i.e., 1,000 feet).
- ▶ When determining the exact type of facility that would occupy the proposed commercial/convenience space, the project shall take into consideration the facility's TAC-producing potential.

The following additional guidelines are recommended in ARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board 2005a) and are considered to be advisory and not regulatory:

- ▶ Sensitive receptors, such as residential units and daycare centers, shall not be located in the same building as dry-cleaning operations that use perchloroethylene. Dry-cleaning operations that use perchloroethylene shall not be located within 300 feet of any sensitive receptor. A setback of 500 feet shall be provided for operations with two or more machines. Large gasoline stations (defined as facilities with a throughput of 3.6 million gallons per year or greater) and sensitive land uses shall not be sited within 300 feet of each other. Small gasoline-dispensing facilities (less than 3.6 million gallons of throughput per year) and sensitive land uses shall not be sited within 50 feet of each other.

**Timing:** Before the approval of all grading plans and throughout project construction, where applicable for all project phases.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.15-4 would reduce health-related risks associated with continued mining activities under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a less-than-significant level. The health risk associated with off-site mobile-source TACs under these alternatives

would be substantially lessened with mitigation implementation, but would not necessarily be reduced to a less-than-significant level. Exposure to mobile-source TAC emissions from on-site mobile sources therefore remains **significant and unavoidable**. This conclusion has been reached because of the uncertainty associated with on-site commercial land use activities and the proximity of sensitive receptors to such uses. Therefore, this conclusion may change as more detailed information regarding proposed on-site commercial uses becomes available.

**IMPACT  
3.15-5**

**Possible Exposure of Sensitive Receptors to Odorous Emissions.** *Construction and long-term operation of the project could generate odorous emissions, thereby exposing sensitive receptors to such emissions.*

PP, HD, IM,  
NF

The exposure of sensitive receptors (e.g., existing and proposed residential units, schools, and parks) to odorous emissions from construction and operation of the project is discussed below.

**Short-Term Use of Construction Equipment**

Project construction activities could result in odorous emissions from diesel exhaust associated with construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, proposed on-site residents would not likely be affected by diesel exhaust odors associated with project construction. As a result, this **direct** impact would be considered **less than significant**. **No indirect** impacts would occur.

**Long-Term Operation**

Long-term operation of an approximately 3,800-acre mixed-use development with multiple types of land uses could generate odorous emissions. No common sources of nuisance odors, such as wastewater treatment facilities, waste-disposal facilities, or agricultural operations, are proposed as part of the project.

With regular maintenance and proper design, residential land uses are typically not considered a major source of odors. However, truck deliveries to commercial uses and sewer lift stations could intermittently and temporarily emit diesel odors. Additionally, commercial uses could provide development of convenience uses that may include sources of odorous emissions (e.g., fast-food restaurants) that would be offensive to some individuals. The operation of such sources could expose a substantial number of proposed on-site receptors to objectionable odorous emissions. As a result, this **direct** impact would be considered **potentially significant**. **No indirect** impacts would occur.

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more individual Implementation Permits expected to be issued by the City. Project construction activities could result in odorous emissions from diesel exhaust associated with construction equipment. However, there are no existing residents in the adjacent area who would be affected by diesel exhaust odors from project construction. Because mining operations are short-term, no long-term operational impacts would occur.

Because the project site would remain in its current state under the No Project Alternative and no sources of TAC emissions would be encountered, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure 3.15-5: Implement Measures to Control Exposure of Sensitive Receptors to Odorous Emissions.

PP, HD, IM,  
NF

The project applicant(s) for all project phases shall implement the following measures:

- ▶ Commercial/convenience land uses that have the potential to emit objectionable odors shall be located as far away as feasible from existing and proposed sensitive receptors.
- ▶ Delivery areas shall be located as far away as feasible from existing and proposed sensitive receptors.
- ▶ The odor-producing potential of land uses shall be considered when the exact type of facility that would occupy commercial/convenience areas is determined.
- ▶ Before the approval of building permits, odor control devices shall be identified to mitigate the exposure of receptors to objectionable odors if a potentially odor-producing source is to occupy space in the commercial/convenience area. The identified odor control devices shall be installed before the issuance of certificates of occupancy for the potentially odor-producing use. The odor-producing potential of a source and control devices shall be determined in coordination with SMAQMD and based on the number of complaints associated with existing sources of the same nature.

**Timing:** Before the approval of building permits and certificates of occupancy for commercial uses for all project phases.

**Enforcement:** City of Rancho Cordova Building and Safety and Planning Departments.

NP

No mitigation measures are required.

Implementation of Mitigation Measure 3.15-5 would reduce the possible exposure of sensitive receptors to odorous emissions to a **less-than-significant** level.

**IMPACT  
3.15-6**

**Possible Exposure to Hazardous Indoor Emissions of Air Pollutants.** *Project implementation could result in the exposure of construction workers or future residents to indoor emissions of air pollutants that would pose a threat to human health.*

PP, HD, IM,  
NF

ENSR presented findings and conclusions from a Baseline Risk Assessment (BRA) of the Inactive Rancho Cordova Test Site (IRCTS) in a report dated December 2004. That report, entitled *Baseline Risk Assessment for the Northern and Southern Groundwater Study Areas*, addressed risks arising from chemicals found in groundwater, soil, and soil vapor. ENSR also evaluated the residential exposure pathway to vapors volatilized from groundwater, migrating through soil vapor, and introduced to indoor air. The ENSR evaluation focused on areas where groundwater was less than 90 feet below the ground surface. The cancer tolerance interval was selected based on EPA's maximum residential exposure thresholds of  $10^{-4}$  to  $10^{-6}$ .

The BRA calculations showed the carcinogenic risk associated with inhalation of volatiles in indoor air to be  $1.25 \times 10^{-5}$ , primarily because of the presence of perchloroethane (PCE) and trichloroethylene (TCE). ENSR concluded this value to be within EPA's target risk range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ . ENSR calculated the noncarcinogenic hazard quotient to be 0.08, which is less than the EPA threshold of 1.

EPA's *Human Health Exposure Manual, Supplemental Guidance: Standard Default Exposure Factors* (EPA 1991) includes the following guidance criteria:

- ▶ Where the cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use is less than  $10^{-4}$ , and the noncarcinogenic hazard quotient is less than 1, action generally is not warranted unless there are adverse environmental impacts.
- ▶ The upper boundary of the risk range is not a discrete line at  $1 \times 10^{-4}$ , although EPA generally uses  $1 \times 10^{-4}$  in making risk management decisions. A specific risk estimate around  $10^{-4}$  may be considered acceptable if justified based on site-specific conditions.

The results of ENSR’s study indicate that **direct** impacts on human health arising from indoor air quality that would continue to exist once the project is implemented are **less than significant**. **No indirect** impacts would occur.

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. These continued mining activities would only take place outdoors; therefore, they would not result in exposure of sensitive receptors to hazardous levels of air pollutants indoors.

Because no project-related development would occur under the No Project Alternative, there would be no potential for exposure of construction workers or future residents to hazardous levels of air pollutants indoors; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.15-7**

**Increase in Long-Term Atmospheric Greenhouse Gas Emissions.** *Project implementation could contribute to an increase in atmospheric GHG concentrations. GHGs contribute to a rise in Earth’s global average temperature, a phenomenon known as global warming. The project could generate substantial new GHG emissions at a rate that exceeds levels that would be needed to help achieve the objectives of AB 32, the California Climate Solutions Act of 2006.*

PP, HD, IM,  
NF

Long-term operation of the project would contribute to an increase in atmospheric GHG concentrations. Atmospheric GHGs include, among others, carbon dioxide (CO<sub>2</sub>), water vapor, methane, nitrous oxide, and ozone. These gases are of concern because of their potential to enhance Earth’s atmospheric greenhouse effect, through selective absorption of radiation. This results in an associated rise in Earth’s global average temperature, and a phenomenon known as global warming (Ahrens 2003). In the case of the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, CO<sub>2</sub> is the primary pollutant of concern and arises from emissions associated with vehicle trips (mobile sources) and stationary sources (e.g., power generation, industry).

As discussed previously, beginning in the year 2012, stationary sources of GHG emissions would be regulated under AB 32. Mobile sources of GHG emissions are not regulated, and would be the primary emission source of GHGs associated with the project. Also as discussed above, vehicle miles traveled (VMT) would be the greatest indicator of CO<sub>2</sub> emissions from the project, and CO<sub>2</sub> emissions are the greatest indicator of total GHG emissions. Buildout of the project, under the Proposed Project Alternative, would result in 229,200 total vehicle trips per day (as contained in the traffic report prepared for this project [Fehr & Peers 2006]). This does not include external trips (trips originating from other areas). The project would accommodate 31,671 new residents

(according to Section 3.2, “Population, Employment, and Housing”). Assuming a trip rate of 6.3 miles/trip as contained in the traffic report (Fehr & Peers 2006), the Proposed Project Alternative would generate 16,641 VMT/person annually. This rate would be approximately the same under the High Density, Impact Minimization, and No Federal Action Alternatives, due to the similar types of land uses proposed and associated trips. Assuming an emission factor for future CO<sub>2</sub> emissions from vehicles of approximately 366 grams CO<sub>2</sub>/mile (ARB 2002), approximately 6 tons CO<sub>2</sub>/person would be generated by the project annually. These emissions would be nearly 3 times the per-capita level that would be needed to achieve 1990 GHG levels, if the goals of AB 32 were extended to all sources of emissions. (See Appendix K for detailed calculations and a list of assumptions). Given that the project would result in GHG generation at 3 times the per-capita level used to determine the potential for significant GHG emissions, and that the project would accommodate more than 30,000 new residents, which is substantial, the increase in GHG is considered significant. The project would, therefore, contribute substantially to global warming impacts. Thus, this **direct** impact is considered **significant**. **No indirect** impacts would result.

Under the High Density Alternative, 10,611 additional residences would be developed on the project site (according to Section 3.2, “Population, Employment, and Housing”), beyond those discussed under the Proposed Project Alternative. The increased number of residences would result in a greater total contribution of GHG emissions. Because the resultant VMT from the High Density Alternative would increase roughly proportionally to the population increase, the per-capita CO<sub>2</sub> emission rate associated with this alternative would be approximately the same as under the Proposed Project Alternative. Similarly, the Impact Minimization and No Federal Action Alternatives would accommodate 2,843 and 2,283 fewer residents, respectively, than the Proposed Project Alternative, and total VMT associated with these alternatives would also decrease proportionately with their associated populations. Thus, the per-capita GHG emission rate for all alternatives would be approximately the same as the rate calculated for the Proposed Project Alternative. This rate is approximately three times the rate needed to achieve 1990 GHG levels. In addition, the number of residents accommodated by each alternative is considered to be substantial. Therefore, this **direct** impact is considered **significant** for all alternatives. **No indirect** impacts would result.

**NP** Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City.

Because no project-related development would occur under the No Project Alternative, there would be no corresponding contribution to GHG concentrations and potential associated warming impacts; thus, **no direct** or **indirect** impacts would occur. [*Lesser*]

**Mitigation Measure: Implement Mitigation Measure 3.15-2.**

Implementation of Mitigation Measure 3.15-2 would reduce GHG emissions from mobile sources by approximately 15%. However, a reduction in project-generated emissions of approximately 65% would be required to achieve the threshold of 2 tons CO<sub>2</sub>/person. Thus, this impact would remain **significant and unavoidable**.

## Project (Phase 1) Impacts and Mitigation Measures

### IMPACT 3.15-8

Generation of Temporary, Short-Term Construction Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. *Construction activity associated with development Phase 1 would generate temporary, short-term emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Because of the large size of the Phase 1 development area, construction-generated emissions of NO<sub>x</sub>, an ozone precursor, would exceed the SMAQMD-recommended thresholds and substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS.*

### PP

Implementation of development Phase 1 would include construction activity over a 1,100-acre area and would comprise 2,994 residential dwelling units, 139 acres of commercial land uses, 188 acres of industrial land uses, and 82 acres of education-related land uses, in addition to parks and other uses. As discussed in Impact 3.15-1, construction activities would temporarily generate emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>.

As discussed above, SMAQMD has not adopted a construction emissions threshold for ROG. However, a construction mass emission threshold of 85 lb/day applies to NO<sub>x</sub> (SMAQMD 2004). Short-term construction emissions of ROG and NO<sub>x</sub> were estimated using the ARB-approved URBEMIS 2002 Version 8.7 computer program as recommended by SMAQMD. URBEMIS is designed to model construction emissions for land-use development projects and allows for the input of project-specific information. Detailed construction information (e.g., equipment requirements, type, hours of operation, number of employees) was not available at the time this analysis was conducted. As a result, the estimation of construction-generated emissions was based primarily on the default assumptions contained in the model for the size and location of the project. Model parameters were adjusted to reflect the overall construction phasing schedule, as well as equipment assumptions recommended by SMAQMD for site preparation activities. As summarized in Table 3.15-3, the modeled worst-case daily construction-generated emissions of ROG and NO<sub>x</sub> would be approximately 627 and 2,071 lb/day, respectively. Refer to Appendix K for model output files and assumptions. In addition, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more individual Implementation Permits expected to be issued by the City. Construction-related NO<sub>x</sub> emissions associated with such continued mining activities are projected to be 84 lb/day (City of Rancho Cordova 2005). Construction-generated NO<sub>x</sub> emissions would exceed the SMAQMD-recommended threshold of 85 lb/day; as NO<sub>x</sub> is an ozone precursor, such emissions would substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS.

With respect to construction-generated PM<sub>10</sub> emissions, SMAQMD recommends using a modeling program [e.g., the Industrial Source Complex Model (ISC)] if a project is larger than the screening-level value of 15 acres or if the project cannot undertake the required screening-level mitigation measures. Because the Phase 1 development area is substantially larger than the recommended screening value and extensive site grading would occur, construction-generated PM<sub>10</sub> emissions were modeled as recommended by SMAQMD using the ISC. For Phase 1, detailed construction information was not entirely available at the time of the preparation of this draft environmental impact report/draft environmental impact statement. This is because of the long schedule (approximately 8 years to implement Phase 1), unknown future market demand (which would influence the types and distribution of land uses to be developed), and the large size of the development area (1,100 acres). Thus, reasonably conservative modeling assumptions were made to depict a worst-case daily emissions scenario. Refer to Appendix K for model output contours and assumptions. Based on the dispersion modeling conducted, construction of development Phase 1 would result in a maximum unmitigated fence-line concentration of fugitive dust of approximately 232 µg/m<sup>3</sup> at the northwest boundary of the site. The generation of such emissions would result in and substantially contribute (at a level equal to or greater than 5%) to

emissions concentrations that exceed the NAAQS and CAAQS for PM<sub>10</sub>, 50 µg/m<sup>3</sup> and 2.5 µg/m<sup>3</sup>, respectively.

<b>Table 3.15-3 Summary of Modeled Worst-Case Daily<sup>1</sup> Short-Term Construction-Generated Emissions for Phase 1—Proposed Project Alternative</b>		
Source	ROG (lb/day)	NO <sub>x</sub> (lb/day)
<b>Site Preparation Phase</b>		
Mobile Equipment Exhaust	99.09	727.71
Employee Trips	0.83	0.85
Maximum lb/day	99.92	728.56
<b>Building Construction Phase</b>		
Mobile Equipment Exhaust	265.82	2,055.01
Architectural Coatings Off-gas <sup>2</sup>	320.30	-
Asphalt Off-gas	2.21	-
Employee Trips	38.67	16.44
Maximum lb/day	627.00	2,071.45
Maximum lb/day for all Phases, Unmitigated	627.00	2,071.45
Maximum lb/day for all Phases, Mitigated <sup>3</sup>	614.15	1,660.45
SMAQMD Significance Threshold	-	85
Notes: lb/day = pounds per day; NO <sub>x</sub> = oxides of nitrogen; ROG = reactive organic gases; SMAQMD = Sacramento Metropolitan Air Quality Management District <sup>1</sup> The worst-case daily emissions from the worst-case year for each pollutant are presented for each construction phase. <sup>2</sup> Emission factors reflect compliance with SMAQMD Rule 442 (“Architectural Coatings”) and the project’s use of coatings with low volatile organic compound content. <sup>3</sup> Implementation of SMAQMD-recommended mitigation measures to control mobile-source emissions would result in a reduction of ROG and NO <sub>x</sub> by 5% and 20%, respectively. See Appendix K for modeling results and detailed assumptions. Source: Data provided by EDAW in 2005		

In summary, construction-generated NO<sub>x</sub> emissions would exceed the SMAQMD-recommended threshold of 85 lb/day for NO<sub>x</sub> and result in and would substantially contribute (at a level equal to or greater than 5%) to emissions concentrations (e.g., 50 µg/m<sup>3</sup> and 2.5 µg/m<sup>3</sup>, respectively, for PM<sub>10</sub>) that exceed the NAAQS or CAAQS. As a result, temporary, short-term construction-generated emissions are considered a **significant, direct** impact. **No indirect** impacts would occur.

**HD**

The same amount of land would be developed under Phase 1 of the High Density Alternative as under Phase 1 of the Proposed Project Alternative, with a higher density of dwelling units constructed on that same acreage. Approximately the same amount of construction equipment would be required during the building phase, resulting in similar emissions from mobile sources. Slightly less application of architectural coatings would be necessary during building construction because of the slight difference in land use acreages compared to the Proposed Project Alternative. As summarized in Table 3.15-4, the modeled worst-case daily construction-generated emissions of ROG and NO<sub>x</sub> would be approximately 618 lb/day and 2,071 lb/day,

Table 3.15-4 Summary of Modeled Worst-Case Daily <sup>1</sup> Short-Term Construction-Generated Emissions for Phase 1—High Density Alternative		
Source	ROG (lb/day)	NO <sub>x</sub> (lb/day)
<b>Site Preparation Phase</b>		
Mobile Equipment Exhaust	99.09	727.71
Employee Trips	0.83	0.85
Maximum lb/day	99.92	728.56
<b>Building Construction Phase</b>		
Mobile Equipment Exhaust	265.36	2,055.01
Architectural Coatings Off-gas <sup>2</sup>	313.31	-
Asphalt Off-gas	2.10	-
Employee Trips	37.66	16.01
Maximum lb/day	618.43	2,071.02
Maximum lb/day for all Phases, Unmitigated	618.43	2,071.02
Maximum lb/day for all Phases, Mitigated <sup>3</sup>	605.17	1,660.02
SMAQMD Significance Threshold	-	85
Notes: lb/day = pounds per day; NO <sub>x</sub> = oxides of nitrogen; ROG = reactive organic gases; SMAQMD = Sacramento Metropolitan Air Quality Management District		
<sup>1</sup> The worst-case daily emissions from the worst-case year for each pollutant are presented for each construction phase.		
<sup>2</sup> Emission factors reflect compliance with SMAQMD Rule 442 (“Architectural Coatings”) and the project’s use of coatings with low volatile organic compound content.		
<sup>3</sup> Implementation of SMAQMD-recommended mitigation measures to control mobile-source emissions would result in a reduction of ROG and NO <sub>x</sub> by 5% and 20%, respectively.		
See Appendix K for modeling results and detailed assumptions.		
Source: Data provided by EDAW in 2005		

respectively. In addition, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and individual Implementation Permits expected to be issued by the City. Such operations would contribute an additional 84 lb/day of NO<sub>x</sub>, as mentioned under the Proposed Project Alternative. With respect to PM<sub>10</sub>, based on the dispersion modeling conducted, construction of development Phase 1 would result in a maximum unmitigated fenceline concentration of fugitive dust of approximately 232 µg/m<sup>3</sup> at the northwest boundary of the site.

Construction-generated NO<sub>x</sub> emissions would exceed the SMAQMD-recommended threshold of 85 lb/day for NO<sub>x</sub> and would result in and substantially contribute (at a level equal to or greater than 5%) to emissions concentrations (e.g., 50 µg/m<sup>3</sup> and 2.5 µg/m<sup>3</sup>, respectively, for PM<sub>10</sub>) that exceed the NAAQS or CAAQS. This would result in a **significant** and **direct** impact, but would occur at nearly the same level as under Phase 1 of the Proposed Project Alternative. **No indirect** impacts would occur. *[Similar]*

IM

Because less land would be developed for urban purposes, impacts under Phase 1 of the Impact Minimization Alternative would be slightly less than those under Phase 1 of the Proposed Project Alternative. Emissions of PM<sub>10</sub> would be slightly reduced because fugitive-dust emissions associated with disturbed land would be less, and mobile-source emissions would decrease as discussed for impacts of Phase 1 under the High Density Alternative. As summarized in Table

3.15-5, the modeled worst-case daily construction-generated emissions of ROG and NO<sub>x</sub> would be approximately 558 lb/day and 1,759 lb/day, respectively. Continued mining activities would

Table 3.15-5 Summary of Modeled Worst-Case Year <sup>1</sup> Short-Term Construction-Generated Emissions for Phase 1—Impact Minimization Alternative		
Source	ROG (lb/day)	NO <sub>x</sub> (lb/day)
<b>Site Preparation Phase</b>		
Mobile Equipment Exhaust	84.31	619.02
Employee Trips	0.70	0.72
Maximum lb/day	85.01	619.74
<b>Building Construction Phase</b>		
Mobile Equipment Exhaust	226.44	1,743.65
Architectural Coatings Off-gas <sup>2</sup>	293.33	-
Asphalt Off-gas	2.10	-
Employee Trips	35.72	15.19
Maximum lb/day	557.59	1,758.84
Maximum lb/day for all Phases, Unmitigated	557.59	1,758.83
Maximum lb/day for all Phases, Mitigated <sup>3</sup>	546.28	1,410.10
SMAQMD Significance Threshold	-	85
Notes: lb/day = pounds per day; NO <sub>x</sub> = oxides of nitrogen; ROG = reactive organic gases; SMAQMD = Sacramento Metropolitan Air Quality Management District <sup>1</sup> The worst-case daily emissions from the worst-case year for each pollutant are presented for each construction phase. <sup>2</sup> Emission factors reflect compliance with SMAQMD Rule 442 (“Architectural Coatings”) and the project’s use of coatings with low volatile organic compound content. <sup>3</sup> Implementation of SMAQMD-recommended mitigation measures to control mobile-source emissions would result in a reduction of ROG and NO <sub>x</sub> by 5% and 20%, respectively. See Appendix K for modeling results and detailed assumptions. Source: Data provided by EDAW in 2005		

contribute to NO<sub>x</sub> emissions, as mentioned previously. With respect to PM<sub>10</sub>, based on the dispersion modeling conducted, construction of the Phase 1 development area would result in a maximum unmitigated fence-line concentration of fugitive dust of approximately 196 µg/m<sup>3</sup> at the northwest boundary of the site.

Construction-generated NO<sub>x</sub> emissions would exceed the SMAQMD-recommended threshold of 85 lb/day for NO<sub>x</sub> and would result in and substantially contribute (at a level equal to or greater than 5%) to emissions concentrations (e.g., 50 µg/m<sup>3</sup> and 2.5 µg/m<sup>3</sup>, respectively, for PM<sub>10</sub>) that exceed the NAAQS or CAAQS. Emissions of NO<sub>x</sub> would occur at a lower level than under the Proposed Project Alternative and emissions of PM<sub>10</sub> would be slightly less than under the Proposed Project Alternative. This is considered **direct** and **significant** impact. **No indirect** impacts would occur. *[Lesser]*

NF Because less land would be developed for urban purposes, impacts under Phase 1 of the No Federal Action Alternative would be slightly less than those under Phase 1 of the Proposed Project Alternative. Emissions would be very similar to those discussed under the Impact Minimization Alternative, but would occur to a slightly lesser extent, since slightly less land would be developed. Continued mining activities would contribute to NO<sub>x</sub> emissions, as mentioned previously.

Construction-generated NO<sub>x</sub> emissions would exceed the SMAQMD-recommended threshold of 85 lb/day for NO<sub>x</sub> and would result in and substantially contribute (at a level equal to or greater than 5%) to emissions concentrations (e.g., 50 µg/m<sup>3</sup> and 2.5 µg/m<sup>3</sup>, respectively, for PM<sub>10</sub>) that exceed the NAAQS or CAAQS. Emissions of NO<sub>x</sub> would occur at a lower level than under the Proposed Project Alternative and emissions of PM<sub>10</sub> would be slightly less than under the Proposed Project Alternative. This is considered **direct** and **significant** impact. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. PM<sub>10</sub> emissions from equipment used during mining operations could exceed SMAQMD standards. However, the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) contain mitigation measures to reduce PM<sub>10</sub> emissions. As mitigated, indirect impacts from mining activities would not exceed SMAQMD standards for other criteria pollutants.

Because the project site would remain in its current state under the No Project Alternative, no project-related emissions would result; thus, **no direct or indirect impacts** would occur. *[Lesser]*

#### Mitigation Measure: Implement Mitigation Measure 3.15-1.

Implementation of Mitigation Measure 3.15-1 would reduce construction-generated NO<sub>x</sub> and PM<sub>10</sub> emissions from on-site heavy-duty equipment exhaust by approximately 20% and 45%, respectively under Phase 1 of the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. It would also reduce fugitive PM<sub>10</sub> emissions by 75% under these alternatives. However, implementation of this measure would not mitigate the impact from emissions to a less-than-significant level. Daily construction emissions would still exceed SMAQMD's significance thresholds for NO<sub>x</sub> and PM<sub>10</sub>. As a result, the impact of short-term, temporary construction-generated emissions from the project would remain **significant** and **unavoidable**.

#### IMPACT 3.15-9

*Generation of Long-Term Operational (Regional) Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Operational area- and mobile-source emissions from implementation of the project would exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, and would result in or substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS. In addition, because of the large increase in emissions associated with development Phase 1 and the fact that the project is not within an already approved plan (meaning that increased emissions would not already be accounted for in applicable air quality plans), project implementation could conflict with air quality planning efforts.*

PP Operation of development Phase 1 would result in long-term regional emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> associated with area sources, such as natural-gas emissions, landscaping, applications of architectural coatings, and use of consumer products, in addition to operational vehicle-exhaust emissions, as discussed above in Impact 3.15-2. Buildout of development Phase 1 would generate approximately 117,968 vehicle trips (743,199 VMT) (Fehr & Peers 2005). See Section 3.14,

“Traffic and Transportation,” for further discussion.

Operational emissions associated with development Phase 1 were modeled using the ARB-approved URBEMIS 2002 version 8.7.0 computer model, as recommended by SMAQMD. Model defaults were adjusted to reflect project-specific data where available; for example, the exact number of vehicle miles traveled, as obtained from the traffic report prepared for this project, was used in calculating mobile-source operational emissions (Fehr & Peers 2005). Modeled operational emissions are presented in Table 3.15-6.

<b>Table 3.15-6 Summary of Modeled Long-Term Operational Emissions for Phase 1— Proposed Project Alternative</b>			
Source	ROG (lb/day)	NO <sub>x</sub> (lb/day)	PM <sub>10</sub> (lb/day)
<b>Area Sources</b>			
Natural Gas	8.87	120.22	0.22
Landscaping	6.32	0.81	0.16
Consumer Products	146.48	-	-
Architectural Coatings	18.92	-	-
<b>Total Area-Source Emissions</b>	<b>180.59</b>	<b>121.03</b>	<b>0.38</b>
Operational (Vehicle) Emissions	552.44	556.30	1,114.59
<b>Total Unmitigated Operational Emissions</b>	<b>733.03</b>	<b>676.33</b>	<b>1,114.97</b>
SMAQMD Significance Threshold	65	65	- <sup>a</sup>
Notes: CAAQS = California ambient air quality standards; lb/day = pounds per day; µg/m <sup>3</sup> = micrograms per cubic meter; NO <sub>x</sub> = oxides of nitrogen; PM <sub>10</sub> = respirable particulate matter; SMAQMD = Sacramento Metropolitan Air Quality Management District See Appendix K for modeling assumptions and results. <sup>a</sup> SMAQMD does not have a mass-emission significance threshold for PM <sub>10</sub> , but instead uses a concentration-based threshold as defined by the CAAQS of 50 µg/m <sup>3</sup> . Source: Data provided by EDAW in 2005			

Based on the modeling conducted, and as summarized in Table 3.15-6, the operation of development Phase 1 would result in a net increase in unmitigated long-term regional emissions of approximately 733 lb/day of ROG, 677 lb/day of NO<sub>x</sub>, and 1,115 lb/day of PM<sub>10</sub>. Operational area- and mobile-source emissions from implementation of Phase 1 would exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO<sub>x</sub>, and would result in or substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS. In addition, because of the large increase in emissions associated with development Phase 1 and the fact that the project is not within an already existing approved plan (meaning that increased emissions would not already be accounted for in applicable air quality plans), implementation of development Phase 1 could conflict with air quality planning efforts. As a result, this long-term **direct** impact is considered **significant**. **No indirect** impacts would occur.

HD

The same amount of land would be developed under Phase 1 of the High Density Alternative as under Phase 1 of the Proposed Project Alternative, with a higher density of dwelling units constructed on that same acreage. A larger population would be residing within the same area and contributing to operational emissions than under Phase 1 of the Proposed Project Alternative. Because of the slightly different types of land uses developed under Phase 1 of the High Density Alternative, long-term

operational emissions would be slightly less than those under the Proposed Project Alternative. This is attributable to the change in residential land uses, whereby a larger number of multifamily residences generates more area-source emissions, but fewer mobile-source emissions, than single-family residences. In addition, there would be slightly less commercial and industrial development under this alternative, further reducing associated operational emissions. Based on the modeling conducted, and as summarized in Table 3.15-7, the operation of Phase 1 under this alternative would result in a net increase in unmitigated long-term regional emissions of approximately 711 lb/day of ROG, 650 lb/day of NO<sub>x</sub>, and 1,061 lb/day of PM<sub>10</sub>.

<b>Table 3.15-7 Summary of Modeled Long-Term Operational Emissions for Phase 1— High Density Alternative</b>			
Source	ROG (lb/day)	NO <sub>x</sub> (lb/day)	PM <sub>10</sub> (lb/day)
<b>Area Sources</b>			
Natural Gas	8.83	119.75	0.22
Landscaping	6.32	0.81	0.16
Consumer Products	147.16	-	-
Architectural Coatings	22.39	-	-
<b>Total Area-Source Emissions</b>	<b>184.70</b>	<b>120.56</b>	<b>0.38</b>
Operational (Vehicle) Emissions	526.24	529.18	1,060.12
<b>Total Unmitigated Operational Emissions</b>	<b>710.94</b>	<b>649.74</b>	<b>1,060.50</b>
SMAQMD Significance Threshold	65	65	- <sup>a</sup>
Notes: CAAQS = California ambient air quality standards; lb/day = pounds per day; µg/m <sup>3</sup> = micrograms per cubic meter; NO <sub>x</sub> = oxides of nitrogen; PM <sub>10</sub> = respirable particulate matter; SMAQMD = Sacramento Metropolitan Air Quality Management District See Appendix K for modeling assumptions and results. <sup>a</sup> SMAQMD does not have a mass-emission significance threshold for PM <sub>10</sub> , but instead uses a concentration-based threshold as defined by the CAAQS of 50 µg/m <sup>3</sup> . Source: Data provided by EDAW in 2005			

The operational emissions from daily uses would occur at a slightly lower level than under Phase 1 of the Proposed Project Alternative. As a result, this is considered a **direct** and **significant** impact. **No indirect** impacts would occur. *[Lesser]*

**IM**

Impacts under Phase 1 of the Impact Minimization Alternative would be slightly less than those under Phase 1 of the Proposed Project Alternative because of the reduced developed acreage and change in residential land uses. As discussed under the High Density Alternative, a larger number of multifamily residences generates greater area-source emissions, but fewer mobile-source emissions, than single-family residences. In addition, because of the smaller footprint of developed area, slightly fewer commercial and industrial uses would be developed under this alternative, further reducing area and operational emissions associated with urban land-use types. Based on the modeling conducted, and as summarized in Table 3.15-8, the operation of Phase 1 under this alternative would result in a net increase in unmitigated long-term regional emissions of approximately 590 lb/day of ROG, 480 lb/day of NO<sub>x</sub>, and 665 lb/day of PM<sub>10</sub>.

<b>Table 3.15-8 Summary of Modeled Long-Term Operational Emissions for Phase 1— Impact Minimization Alternative</b>			
Source	ROG (lb/day)	NO <sub>x</sub> (lb/day)	PM <sub>10</sub> (lb/day)
<b>Area Sources</b>			
Natural Gas	8.18	110.68	0.20
Landscaping	2.63	0.32	0.06
Consumer Products	181.60	-	-
Architectural Coatings	21.00	-	-
Total Area-Source Emissions	213.41	111.00	0.26
Operational (Vehicle) Emissions	376.74	368.80	665.01
<b>Total Unmitigated Operational Emissions</b>	<b>590.15</b>	<b>479.80</b>	<b>665.27</b>
SMAQMD Significance Threshold	65	65	- <sup>a</sup>
Notes: CAAQS = California ambient air quality standards; lb/day = pounds per day; µg/m <sup>3</sup> = micrograms per cubic meter; NO <sub>x</sub> = oxides of nitrogen; PM <sub>10</sub> = respirable particulate matter; SMAQMD = Sacramento Metropolitan Air Quality Management District See Appendix K for modeling assumptions and results. <sup>a</sup> SMAQMD does not have a mass-emission significance threshold for PM <sub>10</sub> , but instead uses a concentration-based threshold as defined by the CAAQS of 50 µg/m <sup>3</sup> . Source: Data provided by EDAW in 2005			

Under this alternative, operational emissions would occur at a slightly lower level than under Phase 1 of the Proposed Project Alternative. This is considered a **direct** and **significant** impact. **No indirect** impacts would occur. *[Lesser]*

NF Impacts under Phase 1 of the No Federal Action Alternative would be slightly less than those under Phase 1 of the Proposed Project Alternative because of the reduced developed acreage and change in residential land uses. As discussed under the Impact Minimization Alternative, because of the smaller footprint of developed area, slightly fewer residential, commercial, and industrial uses would be developed under this alternative, further reducing area and operational emissions associated with urban land-use types. This alternative would preserve an even larger area for resource protection, and would result in emissions slightly less those discussed under the Impact Minimization Alternative.

Under this alternative, operational emissions would occur at a slightly lower level than under Phase 1 of the Proposed Project Alternative. This is considered a **direct** and **significant** impact. **No indirect** impacts would occur. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. PM<sub>10</sub> emissions from equipment used during mining operations could exceed SMAQMD standards. The *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) contain mitigation measures to reduce PM<sub>10</sub>

emissions. As mitigated, indirect impacts from mining activities would not exceed SMAQMD standards for other criteria pollutants.

Because the project site would remain in its current state under the No Project Alternative, no project-related emissions would result; thus, **no significant direct or indirect impacts** would occur. *[Lesser]*

#### Mitigation Measure: Implement Mitigation Measure 3.15-2.

Implementation of Mitigation Measure 3.15-2 would reduce long-term regional emissions by a minimum of approximately 15% under Phase 1 of the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, but would not mitigate the impact from emissions to a less-than-significant level. Some of the design measures recommended to reduce operational emissions, such as mixed-use development and the creation of street and pedestrian connections, are already incorporated into the project. However, even a reduction of 15% would not reduce ROG and NO<sub>x</sub> emissions to levels below the SMAQMD-recommended significance threshold of 65 lb/day for ROG and NO<sub>x</sub> or PM<sub>10</sub> emissions (as would be necessary for project implementation not to result in a substantial contribution to an air quality violation). Thus, increases in long-term regional emissions attributable to development Phase 1 would be considered a significant and unavoidable impact. Implementation of the above-mentioned measures would substantially reduce the level of emissions from this source; however, because of the large size of the development, emissions would still be expected to exceed the applicable thresholds. Thus, this impact would remain **significant and unavoidable**.

<b>IMPACT 3.15-10</b>
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**Generation of Local Mobile-Source CO Emissions.** *Project-generated local mobile-source CO emissions would not result in or substantially contribute to concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm.*

#### PP

Under baseline conditions, some signalized intersections in the project vicinity do or are predicted to operate at an unacceptable LOS (LOS E or worse) (Fehr & Peers 2005). Implementation of development Phase 1 would contribute to an unacceptable LOS (LOS E or F) at the intersections displayed in Table 3.15-9 below.

Predicted CO concentrations in the vicinity of these intersections were calculated for baseline conditions, with and without implementation of development Phase 1, using CALINE4 (CL4) in accordance with the methodology recommended by the California Department of Transportation. Predicted CO concentrations for baseline conditions (analysis year 2014) and baseline plus Phase 1 (analysis year 2014) traffic conditions are presented in Table 3.15-9. Predicted CO concentrations are based on projected p.m. peak-hour traffic conditions obtained from the traffic analysis prepared for this project and the existing average ambient CO concentrations obtained from the last 2 years of available data. In reality, future background concentrations of CO are anticipated to be lower than under existing ambient conditions because of improved motor vehicle efficiency and the use of reformulated fuels. SMAQMD-recommended rollback factors, which adjust for this reduction in CO concentrations in future years, are used to account for this; however, the percent reduction used was taken from projected CO concentrations in the year 2010 and extrapolated to year 2014 (SMAQMD 2004). These factors are therefore conservative, and as a result, the predicted CO concentrations presented in Table 3.15-9 are considered “worst-case.” In addition, conservative percentage-red times per cycle at each signal were assumed, resulting in associated conservative average cruise speeds for each intersection. These assumptions combined with worst-case meteorological conditions further the “worst-case” analysis scenario.

In comparison to baseline conditions, implementation of development Phase 1 would contribute

to a slight increase in ambient CO concentrations in the vicinity of the studied intersections.

<b>Table 3.15-9 Summary of Modeled CO Concentrations for Baseline and Baseline Plus Phase 1 Development Conditions (Year 2014)—Proposed Project Alternative</b>			
Intersection	Time Period	Maximum CO Concentrations (ppm)	
		Baseline Conditions	Baseline Plus Project Conditions
Florin Road/Sunrise Boulevard	1 hour	2.82	3.12
	8 hours	0.83	0.95
Douglas Road/Sunrise Boulevard	1 hour	3.32	3.82
	8 hours	1.49	1.79
Zinfandel Drive/White Rock Road	1 hour	2.82	3.12
	8 hours	1.25	1.49
Sunrise Boulevard/Folsom Boulevard	1 hour	2.72	3.12
	8 hours	1.19	1.37
Sunrise Boulevard/Zinfandel Drive	1 hour	3.22	3.52
	8 hours	1.37	1.55
Hazel Avenue/U.S. 50 eastbound ramps	1 hour	3.12	3.22
	8 hours	1.31	1.43
Hazel Avenue/U.S. 50 westbound ramps	1 hour	3.62	3.72
	8 hours	1.61	1.67
<b>Significance Threshold</b>	<b>1 hour</b>	<b>20.0</b>	<b>20.0</b>
	<b>8 hours</b>	<b>9.0</b>	<b>9.0</b>
<p>Notes:</p> <p>CO = carbon monoxide; ppm = parts per million; U.S. 50 = U.S. Highway 50</p> <p>1-hour and 8-hour CO concentrations were modeled using CL4 Version 1.31, a graphical user interface for the California Line Source Dispersion Model (CALINE4), in accordance with the University of California, Davis, Institute of Transportation Studies' Transportation Project-Level Carbon Monoxide Protocol. Predicted CO concentrations were calculated using p.m. peak-hour traffic conditions based on information obtained from the traffic analysis prepared for this project and based on existing average ambient CO concentrations obtained from the last 2 years of available data. CO concentrations were calculated at 3 and 7 meters from the roadway edge for 1-hour and 8-hour CO concentrations, respectively. Assumptions, methodology, and calculations are presented in Appendix K.</p> <p>Sources: Caltrans 1996, Garza et al. 1997, data provided by EDAW in 2005</p>			

However, predicted CO concentrations would not result in or substantially contribute to CO concentrations that exceed the California 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm. As a result, this is considered a **less-than-significant, direct** impact. **No indirect** impacts would occur.

HD

Fewer vehicle trips would be generated under Phase 1 of the High Density Alternative than under Phase 1 of the Proposed Project Alternative because of the changes in developed land uses (see Impact 3.15-8). Under specific-plan buildout conditions more traffic would be generated with the High Density Alternative than with the Proposed Project Alternative; however, for Phase 1, this is not the case because of net decreased trip generation. Therefore, impacts under the High Density Alternative would be slightly less than those under the Proposed Project Alternative. However, because nearly the same amount and types of land uses are proposed, it is anticipated that local CO concentrations would be approximately the same as under Phase 1 of the Proposed Project Alternative. Therefore, **direct** impacts would be **less than significant** and would occur at

the same level as under Phase 1 of the Proposed Project Alternative. **No indirect** impacts would occur. *[Similar]*

IM Impacts under Phase 1 of the Impact Minimization Alternative would be slightly less than those under Phase 1 of the Proposed Project Alternative because slightly less traffic would be generated under this alternative. However, because nearly the same amount and types of land uses are proposed, it is anticipated that local CO concentrations would be approximately the same as under Phase 1 of the Proposed Project Alternative. This would represent a **direct** and **less-than-significant** impact. **No indirect** impacts would occur. *[Similar]*

NF Impacts under Phase 1 of the No Federal Action Alternative would be slightly less than those under Phase 1 of the Proposed Project Alternative because slightly less traffic would be generated under this alternative. However, because nearly the same amount and types of land uses are proposed, it is anticipated that local CO concentrations would be approximately the same as under Phase 1 of the Proposed Project Alternative. This would represent a **direct** and **less-than-significant** impact. **No indirect** impacts would occur. *[Similar]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits, expected to be issued by the City. The *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) did not indicate that CO emissions would exceed ambient air-quality standards. Because the project site would remain in its current state under the No Project Alternative, no additional traffic would be introduced to the project area; thus, **no direct or indirect impacts** would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.15-11**

**Exposure of Sensitive Receptors to Short- and Long-Term Emissions of Toxic Air Contaminants.** *Implementation of development Phase 1 would result in exposure of receptors to short- and long-term emissions of TACs from on-site mobile and stationary sources.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.15-4 for further discussion of this impact.

Implementation of Mitigation Measure 3.15-4 would reduce health-related risks associated with continued mining activities to a less-than-significant level. The health risk associated with off-site mobile-source TACs would be substantially lessened, but would not necessarily be reduced to a less-than-significant level. Exposure to mobile-source TAC emissions from on-site mobile sources therefore remains **significant and unavoidable**. This conclusion has been reached because of the uncertainty associated with on-site commercial land use activities and the proximity of sensitive receptors to such uses. Therefore, this conclusion may change as more detailed information regarding proposed on-site commercial uses becomes available.

**IMPACT  
3.15-12**

**Possible Exposure of Sensitive Receptors to Odorous Emissions.** *Construction and long-term operation of development Phase 1 could generate odorous emissions, thereby exposing sensitive receptors to such emissions.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.15-5 for further discussion of this impact.

Implementation of Mitigation Measure 3.15-5 would reduce the possible exposure of sensitive receptors to odorous emissions to a **less-than-significant** level.

**IMPACT  
3.15-13**

**Possible Exposure to Hazardous Indoor Emissions of Air Pollutants.** *Implementation of development Phase 1 could result in the exposure of construction workers or future residents to indoor emissions of air pollutants that would pose a threat to human health.*

Impacts would be the same under Phase 1 as under the program (entire project site) level for all alternatives. Refer to Impact 3.15-6 for further discussion of this impact.

**IMPACT  
3.15-14**

**Increase in Long-Term Atmospheric Greenhouse Gas Emissions.** *Implementation of development Phase 1 could contribute to an increase in atmospheric GHG concentrations, resulting in an associated rise in Earth's global average temperature, a phenomenon known as global warming. Phase 1 of the project could generate substantial new GHG emissions at a rate that exceeds levels that would be needed to help achieve the objectives of AB 32, the California Climate Solutions Act of 2006.*

Impacts would be the same under Phase 1 as under the program (entire project site) level for all alternatives. Phase 1 of the Proposed Project Alternative would accommodate 8,174 new residents; the number of new residents with other alternatives would range from 7,414 to 10,686 (according to Section 3.2, "Population, Employment, and Housing"). The number of residents accommodated by each alternative is considered to be substantial. Refer to Impact 3.15-7 for further discussion of this impact.

## **CUMULATIVE IMPACTS**

Given that compliance with applicable rules and regulations would be required for the control of stationary-source TAC emissions, both on-site and off-site, the project's contribution to long-term cumulative increases in stationary-source TAC concentrations would be considered minor, as discussed above. Nonetheless, exposure to TAC emissions from mobile sources, specifically diesel exhaust PM, is of growing concern within the SVAB, and major transportation corridors involving the operation of diesel-fueled vehicles are present in the project area (e.g., U.S. Highway 50). For these reasons, cumulative impacts in the SVAB are considered significant. However, background diesel PM concentrations within the project area are not considered to be relatively high, as described under Impact 3.15-4; no major nonpermitted sources of TAC emissions have been proposed. However, sensitive receptors, such as residential dwelling units, proposed for construction under the project could be exposed to diesel PM emissions from on-site construction and mining activities. Therefore, implementation of the Rio del Oro project would be expected to result in a cumulatively considerable incremental contribution to this significant cumulative toxic-related air quality impact. In addition, the cumulative toxic-related air quality effects of the Rio del Oro project, combined with related projects, including TACs from Mather Airport, are considered a cumulatively considerable significant impact.

As described under Impacts 3.15-3 and 3.15-9, implementation of development Phase 1 would result in less-than-significant CO-related air quality impacts from local mobile sources. According to the traffic analysis prepared for this project, at signalized intersections in the vicinity of the project site under Cumulative plus Project Conditions, the LOS would be expected to deteriorate below the current level (Fehr & Peers 2005). Existing plus Phase 1 project-generated 1- and 8-hour CO emissions from peak-hour daily trips were calculated to be significantly less than the California 1-hour or 8-hour ambient air quality standards of 20 ppm or 9 ppm, respectively. CO emissions from mobile sources would be anticipated to decrease further under cumulative conditions with implementation of emissions control technology; thus, 1- and 8-hour CO concentrations for the cumulative (2030) condition would not be anticipated to exceed the significance thresholds of 20 ppm and 9 ppm. Consequently, the

cumulative impact of the project's contribution to traffic volumes on the local roadway network relative to CO concentrations is considered less than significant. However, the cumulative CO air quality effects generated from mobile sources, combined with related projects, are considered a cumulatively considerable significant impact.

The cumulative impact of the project's contribution to long-term criteria pollutants is considered significant; therefore, the cumulative effect from long-term criteria pollutants generated from the Rio del Oro project, combined with related projects, is considered a cumulatively considerable significant impact.

Finally, the project's contribution to long-term atmospheric GHG emissions would be considered significant on a cumulative basis. The project would produce substantial levels of new GHG emissions, based on a per-capita calculation and a substantial number of new residents. Therefore, since the impact would be significant on a project-by-project basis, it would also result in a significant contribution to global warming impacts on an incremental basis. Thus, the project would result in a cumulatively considerable significant impact.

### **3.15.4 RESIDUAL SIGNIFICANT IMPACTS**

Implementation of Mitigation Measures 3.15-1 and 3.15-7 under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives would substantially reduce significant impacts associated with short-term, temporary construction-generated emissions of the pollutants ROG, NO<sub>x</sub>, and PM<sub>10</sub>. However, emissions would exceed thresholds that are set to prevent a violation of or a substantial contribution to a violation of the NAAQS and CAAQS. Therefore, construction of the project could result in emissions that would result in or substantially contribute to emissions concentrations that exceed the NAAQS or CAAQS, and Impacts 3.15-1 and 3.15-7 would remain significant and unavoidable after implementation of mitigation. The project would result in potentially significant long-term regional (operational) air quality impacts for criteria air pollutant and GHG emissions. The significance of exposure of sensitive receptors to TACs cannot be made at this time. In addition, emissions attributable to the project, along with emissions from other reasonably foreseeable future projects in the SVAB as a whole, would continue to contribute to long-term increases in emissions that would exacerbate existing and projected nonattainment conditions. Thus, the project would contribute to a significant and unavoidable cumulative air quality impact under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives after implementation of mitigation. The cumulative air quality effect of the Rio del Oro project, combined with related projects, would remain a cumulatively considerable significant and unavoidable impact.

## 3.16 NOISE

### 3.16.1 AFFECTED ENVIRONMENT

#### ACOUSTIC FUNDAMENTALS

Noise is often defined as unwanted sound. Sound is a mechanical form of radiant energy transmitted by pressure waves in the air. It is characterized by two parameters: amplitude (loudness) and frequency (tone).

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. It is measured in decibels (dB) on a logarithmic scale. For example, a 10-dB sound is 10 times the pressure difference of a 1-dB sound; a 20-dB sound is 100 times the pressure difference of a 1-dB sound. Sound amplitudes from multiple sources add together in the following way: a 65-dB source of sound, when joined by another identical 65-dB source, results in sound with amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Amplitude is interpreted by the ear as corresponding to loudness. Laboratory measurements correlate a 10-dB increase in amplitude with a perceived doubling of loudness and establish a 3-dB change in amplitude as the minimum audible difference perceptible to the average person.

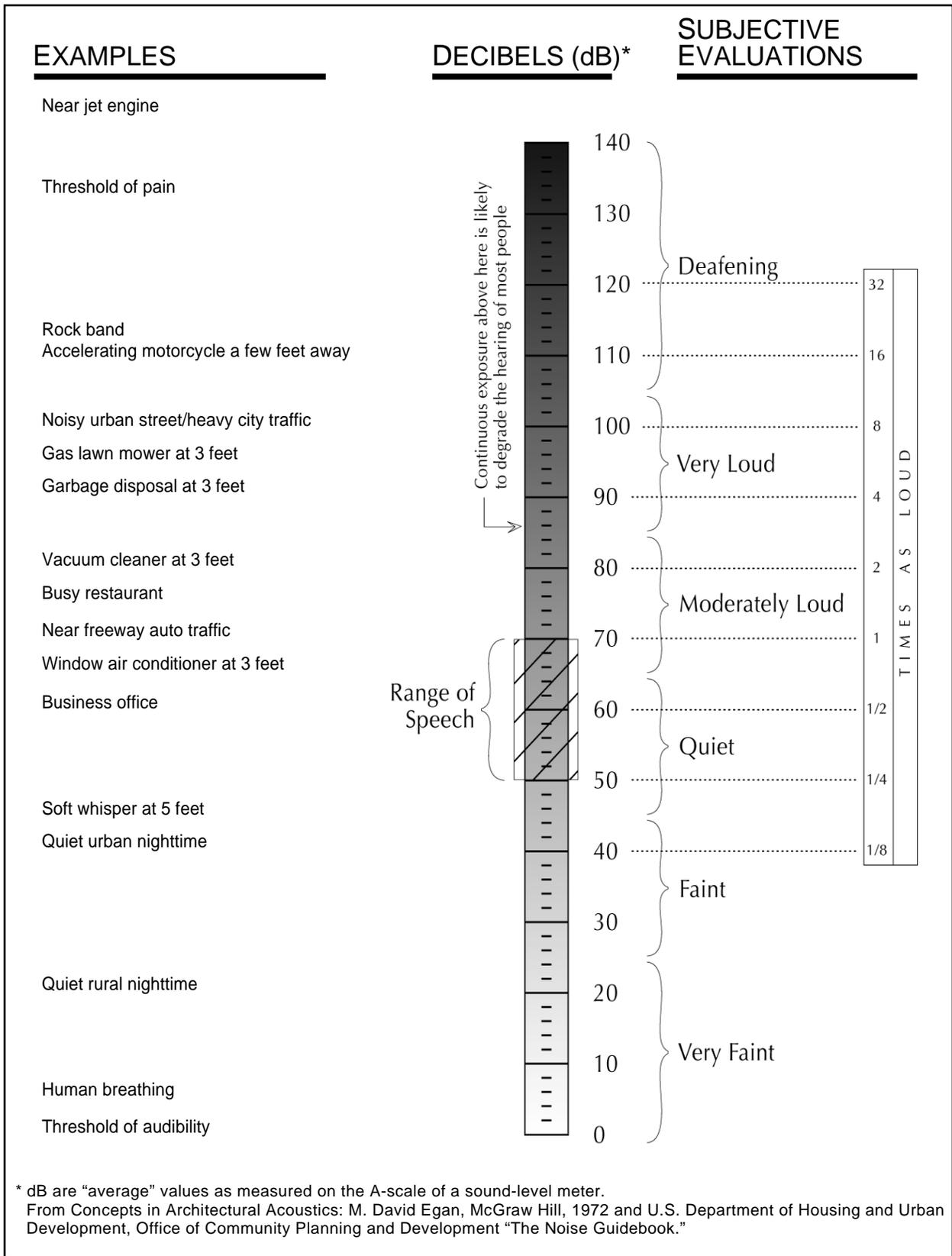
Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sounds of different frequencies. Sound waves below 16 Hz or above 20,000 Hz cannot be heard at all, and the ear is more sensitive to sound in the higher portion of the audible range than in the lower. To approximate human sensitivity to sound, environmental sound is usually measured in A-weighted decibels (dBA). On this scale, the normal range of human hearing extends from approximately 10 dBA to approximately 140 dBA. Listed in Exhibit 3.16-1 are several examples of the noise levels associated with common noise sources.

#### NOISE DESCRIPTORS

The intensity of environmental noise fluctuates over time, and several descriptors of time-averaged noise levels are used. The three most commonly used descriptors are  $L_{eq}$ ,  $L_{dn}$ , and CNEL. The energy-equivalent noise level,  $L_{eq}$ , is a measure of the average energy content (intensity) of noise over any given period. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level,  $L_{dn}$ , is the 24-hour average of the noise intensity, with a 10-dBA “penalty” added for nighttime noise (10 p.m.–7 a.m.) to account for the greater sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to  $L_{dn}$  but adds an additional 5-dBA “penalty” for evening noise (7–10 p.m.). Another descriptor that is commonly discussed is the single-event noise exposure level (SENEL), also referred to as the sound exposure level (SEL). The SENEL/SEL describes a receiver’s cumulative noise exposure from a single noise event, which is defined as an acoustical event of short duration (such as a backup beeper, the sound of an airplane traveling overhead, or a train whistle) and involves a change in sound pressure above a defined reference value (usually approximately 40 dBA). Noise analyses may also depend on measurements of  $L_{max}$ , the maximum instantaneous noise level during a specific period of time, and  $L_{min}$ , the minimum instantaneous noise level during a specific period.

#### CHARACTERISTICS OF SOUND PROPAGATION AND ATTENUATION

Noise can be generated by a wide variety of sources—both mobile sources, such as automobiles, trucks, and airplanes, and stationary sources, such as machinery and industrial operations. Noise generated by mobile sources typically attenuates (is muffled or reduced) at a rate of 3.0–4.5 dBA per doubling of distance, depending on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces such as concrete or asphalt have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces such as uneven or vegetated terrain have an attenuation rate of approximately 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate of 6.0 dBA per doubling of distance from the source.



Source: EDAW 2003

## Typical Noise Levels

EXHIBIT 3.16-1

Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise levels only when the structure breaks the “line of sight” between the source and the receiver. Buildings, concrete walls, and berms can all act as effective noise barriers. Wooden fences or broad areas of dense foliage also can reduce noise but are less effective than solid barriers.

## **HUMAN RESPONSE TO NOISE**

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies that prohibit exposure to excessive community noise levels.

Because construction activities typically are short term, the associated effects of construction-generated noise typically are limited to annoyance and interference with speech. In an exterior noise environment, noise levels in excess of 60 dBA are generally considered to have an appreciable degree of speech interference. The level at which speech interference occurs is based on an average sentence comprehension rate of approximately 98% at 5 meters. Greater speaker-listener distances would be possible indoors at the same level of vocal effort and speech intelligibility because sound pressure levels diminish more slowly than predicted by the inverse-square law, which is typically used in the exterior environment (EPA 1971).

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over differing individual experiences with noise. Thus, an important way to determine a person’s subjective reaction to a new noise is to compare the new noise to the existing environment to which one has adapted: the so-called “ambient” environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the hearers. Regarding increases in A-weighted noise levels, knowledge of the following relationships (EPA 1971) will be helpful in understanding this analysis:

- ▶ Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans.
- ▶ Outside of the laboratory, a 3-dB change is considered a just-perceivable difference.
- ▶ A change in level of at least 5 dB is required before any noticeable change in community response would be expected.

A 10-dB change is subjectively heard as approximately a doubling in loudness and would almost certainly cause an adverse change in community response.

## **EXISTING NOISE ENVIRONMENT**

### **Project Location**

The project site consists of approximately 3,828 acres in Rancho Cordova. Surrounding land uses generally include the Security Park (a privately owned industrial park) to the southeast; industrial land uses along the Sunrise Boulevard corridor to the west; and heavy industrial uses by Aerojet General Corporation (Aerojet) to the north. Residential land uses are currently being developed to the south of the project site, across Douglas Road. In

addition, portions of the project site are located below the approach and departure flight paths of Mather Airport, which is located approximately 1 mile east of the project site.

### Ambient-Noise Survey

To document the existing noise environment, ambient-noise surveys were conducted at various locations within the project site and in the surrounding area. The daytime A-weighted sound levels (i.e., weighted to represent the frequency range of human hearing) measured during the surveys are summarized in Table 3.16-1. Based on the measurements conducted, average daytime noise levels (in dBA  $L_{eq}$ ) within the project site and the surrounding area generally range from the mid-60s to the upper 60s, depending primarily on distance from nearby roadways, Mather Airport flight paths, and nearby industrial land uses.

<b>Table 3.16-1 Daytime Ambient-Noise Levels</b>				
Location	Noise Sources	Date/Time	A-Weighted Sound Level (dBA)	
			$L_{eq}$	$L_{max}$
Douglas Road, east of Sunrise Boulevard	Vehicle traffic on Douglas Road and Sunrise Boulevard	2/4/04 10:55–11:10	66.5	86.6
		2/4/05 12:15–12:30	67.4	87.5
Mechanical Drive, east of Luyung Drive	Vehicle traffic on Sunrise Boulevard and Luyung Drive; helicopter overflight on approach to Mather Airport	2/4/04 11:20–11:35	54.3	68.8
	Vehicle traffic on Sunrise Boulevard and Luyung Drive	2/4/05 13:40–13:55	52.4	57.5
Gold Dredge Way, east of Luyung Drive	Vehicle traffic on Luyung Drive; operation of gunite batch plant and front-end loader at 35 yards	2/4/04 11:40–11:50	66.4	75.2
	Vehicle traffic on Luyung Drive	2/4/05 13:05–13:20	62.3	67.2
Manufacturers Road, east of Luyung Drive	Vehicle traffic on Luyung Drive	2/4/04 12:00–12:15	53.0	67.6
	Vehicle traffic on Luyung Drive; aircraft overflight on approach to Mather Airport	2/4/05 14:15–14:35	58.1	76.8
White Rock Road, east of Luyung Drive	Vehicle traffic on White Rock Road and Luyung Drive	2/4/04 12:20–12:35	68.3	86.8
		2/4/05 14:55–15:10	67.4	86.3
Sunrise Boulevard, north of Douglas Road	Vehicle traffic on Sunrise Boulevard and Douglas Road; weapons fire from Cordova Shooting Center discernible, at times, but not above measured traffic $L_{max}$	2/4/05 11:30–11:45	68.3	89.2
Measurements were conducted using a Larson Davis 820 sound level meter placed 4.5 feet above ground surface, calibrated before and after each measurement. Source: Data provided by Ambient Air Quality & Noise Consulting 2004, 2005				

## EXISTING NOISE SOURCES

The existing noise environment in and surrounding the project site is influenced primarily by aircraft noise associated with flights to and from Mather Airport, surface-transportation noise emanating from vehicular traffic on area roadways, and industrial-related noise from surrounding land uses. To a lesser extent, ambient noise levels at the project site are also influenced by noise generated by nearby commercial and industrial land uses, including Aerojet, and weapons fire emanating from the Cordova Shooting Center, which is located at the northwest corner of the Douglas Road/Sunrise Boulevard intersection. Noise levels associated with these transportation and nontransportation noise sources, as perceived within the vicinity of the project site, are discussed separately below.

### Mather Airport

Mather Airport (formerly Mather Air Force Base [AFB]) has been open as a public-use air cargo and general-aviation airport since May 5, 1995. Managed by the County of Sacramento (County) Department of Airports, the airport, which operates 24 hours per day, consists of two primary runways, one 11,300 feet long and the other 6,100 feet long, generally aligned in a northeast-to-southwest direction. Mather Airport is a joint-use facility that supports both military and commercial operations, and it is rapidly developing as an air cargo depot. The airport includes approximately 40 acres of exclusive air cargo ramp space.

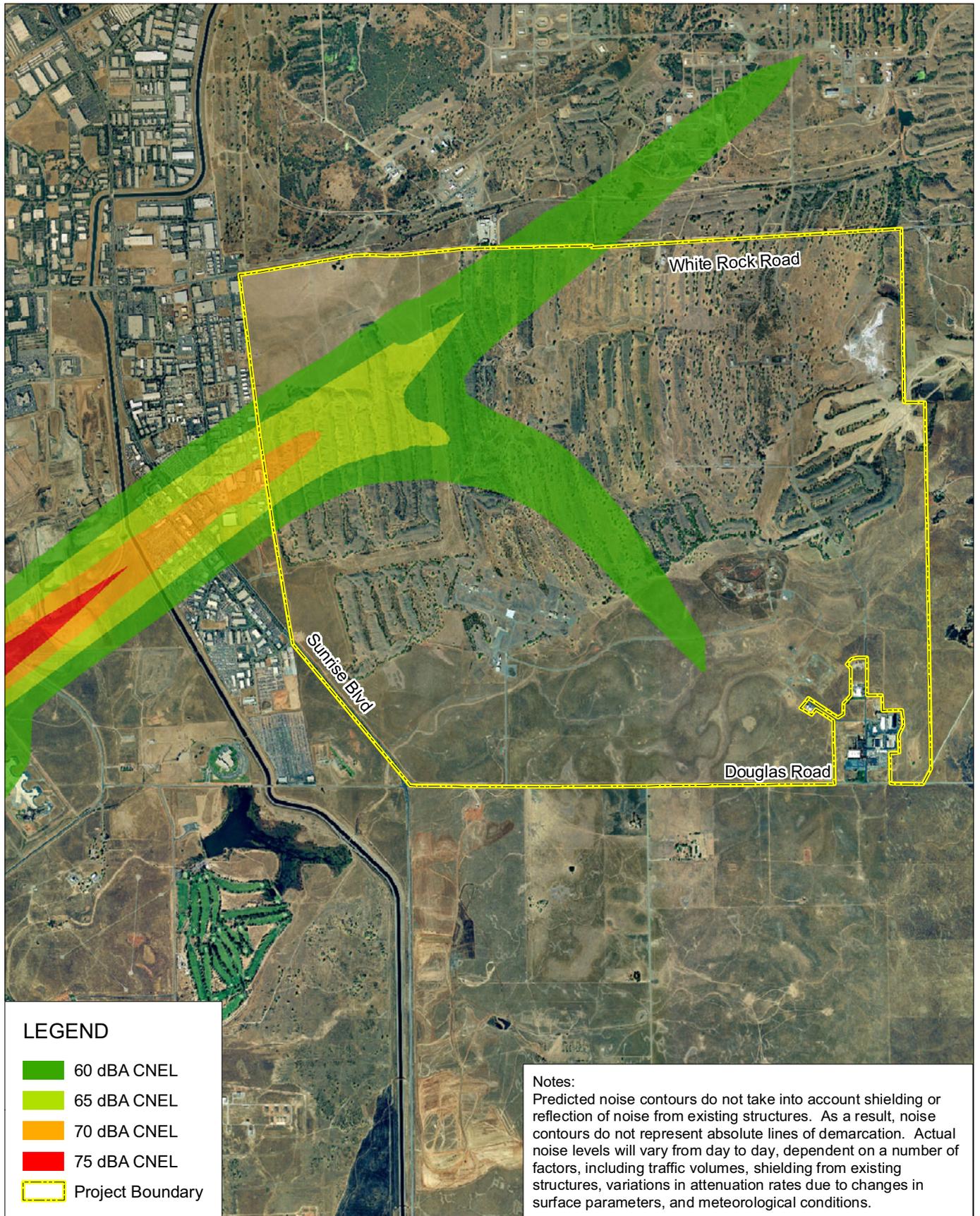
Following the closure of Mather AFB in 1988, the County adopted a reuse plan for Mather Airport in fall 1991. The Airport Land Use Compatibility Plan (ALUCP) for Mather Airport was subsequently adopted in May 1997. As depicted in Exhibit 3.16-2, portions of the project site are located within the currently adopted 60- and 65-dBA CNEL noise contours of the ALUCP for Mather Airport. These noise contours, however, have been proposed for revision as part of the development of the *Mather Airport Master Plan*, which is currently being prepared by the Sacramento County Airport System. The noise contours were revised to account for existing and projected changes in aircraft operations that have occurred since development of the ALUCP for Mather Airport. The proposed CNEL noise contours for Mather Airport, in relationship to the project site and proposed land uses, are presented in Exhibit 3.16-3.

Single-event noise associated with aircraft overflights is also of concern when evaluating aircraft noise effects in terms of land use compatibility. Single-event noise is the maximum sound level produced by an individual approach overflight at a specific location, often described in terms of  $L_{max}$ , which is the maximum sound level recorded for each event. A different measurement of single-event noise, also commonly used when evaluating aircraft noise, is the SEL. As mentioned above under "Noise Descriptors," the SEL describes the event's mean energy level over the duration of the noise event.

As would be expected, single-event noise levels for aircraft overflights within the project site would be greatest and most frequent near the airport's primary flight paths. Based on noise measurements conducted within the project site, beneath the approach flight path for instrument landing systems, single-event noise levels associated with aircraft overflights to Mather Airport ranged from 65 to 96 dBA  $L_{max}$  and from 71 to 102 dBA SEL.

### Roadway Vehicle Traffic

Predicted roadway traffic noise levels were calculated using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108), based on traffic data obtained from the traffic analysis prepared for this project. Additional input data included day/night percentages of automobiles, medium-duty trucks, and heavy-duty trucks; vehicle speeds; ground attenuation factors; and roadway widths. Existing traffic noise levels for area roadway segments most affected by implementation of the proposed project are summarized in Table 3.16-2. Actual noise levels will vary from day to day, dependent on various factors, including local traffic volumes, shielding from existing structures, variations in attenuation rates attributable to changes in surface parameters, and meteorological conditions.



**LEGEND**

- 60 dBA CNEL
- 65 dBA CNEL
- 70 dBA CNEL
- 75 dBA CNEL
- Project Boundary

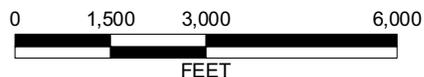
**Notes:**  
 Predicted noise contours do not take into account shielding or reflection of noise from existing structures. As a result, noise contours do not represent absolute lines of demarcation. Actual noise levels will vary from day to day, dependent on a number of factors, including traffic volumes, shielding from existing structures, variations in attenuation rates due to changes in surface parameters, and meteorological conditions.

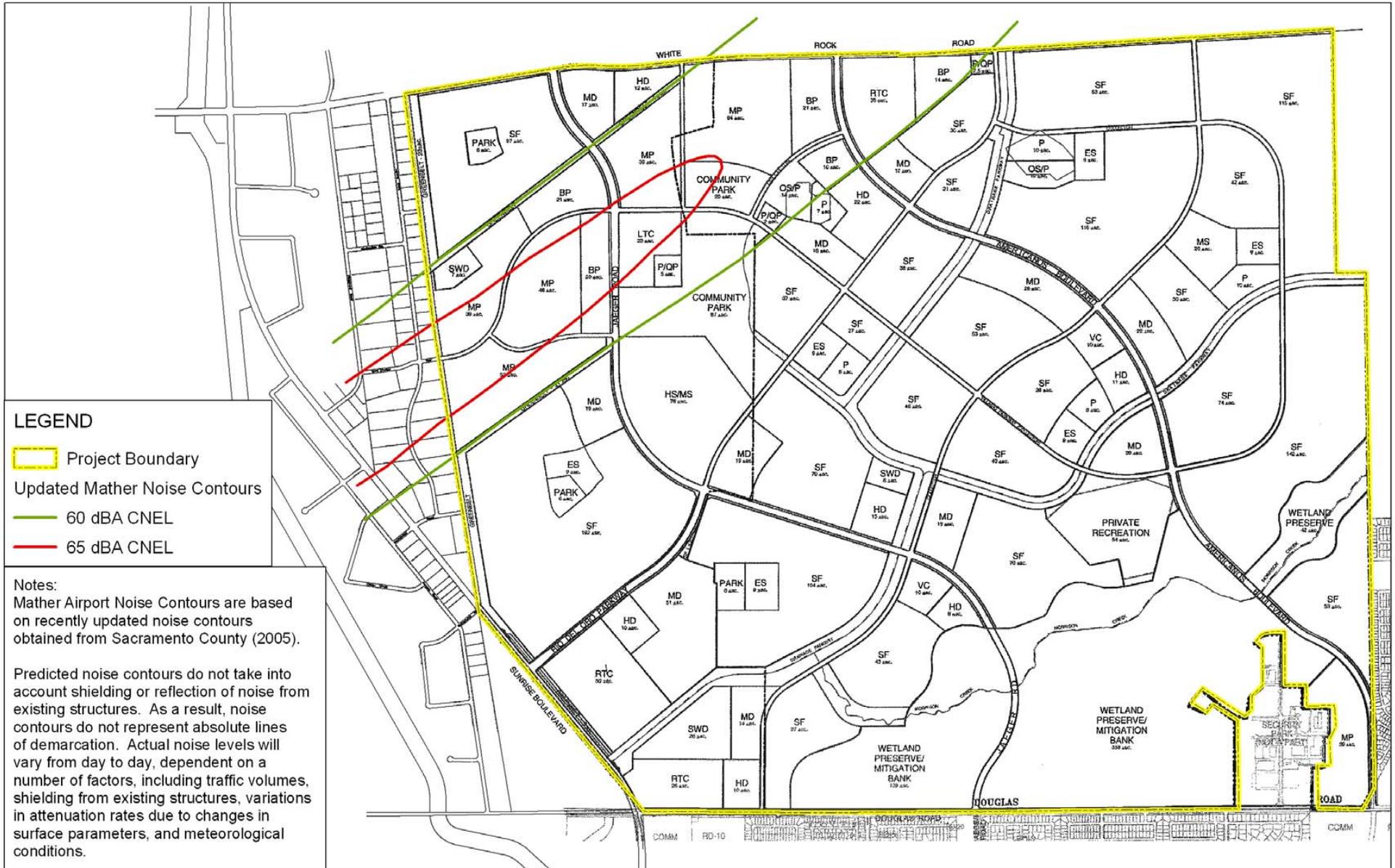
Source: SACOG 2005

**Adopted Mather Airport Land Use Compatibility Plan Noise Contours (1997) EXHIBIT 3.16-2**

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova USACE

X 03110089.01 11/05





**LEGEND**

- Project Boundary
- Updated Mather Noise Contours
- 60 dBA CNEL
- 65 dBA CNEL

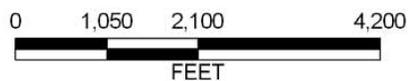
**Notes:**  
 Mather Airport Noise Contours are based on recently updated noise contours obtained from Sacramento County (2005).  
 Predicted noise contours do not take into account shielding or reflection of noise from existing structures. As a result, noise contours do not represent absolute lines of demarcation. Actual noise levels will vary from day to day, dependent on a number of factors, including traffic volumes, shielding from existing structures, variations in attenuation rates due to changes in surface parameters, and meteorological conditions.

Source: G.C. Wallace 2005, SACOG 2005

**Proposed Mather Airport Land Use Compatibility Plan Noise Contours (2005)**

**EXHIBIT 3.16-3**

Rio del Oro Specific Plan Project DEIR/DEIS  
 City of Rancho Cordova USACE



**Table 3.16-2  
Summary of Modeled Existing Traffic Noise Levels**

Roadway Segment	Between	CNEL/L <sub>dn</sub> (dBA) 50 Feet from Centerline of Near Travel Lane	Distance (ft) from Roadway Centerline to CNEL/L <sub>dn</sub> (dBA)				
			70 CNEL	65 CNEL	60 CNEL	55 CNEL	
SR 16	Excelsior Road	Eagles Nest Road	72.42	81.0	174.0	374.7	807.0
SR 16	Sunrise Boulevard	Grant Line Road	73.73	98.9	212.6	457.9	986.2
Kiefer Boulevard	Grant Line Road	North of SR 16	62.42	0.0	0.0	80.9	174.0
Mather Boulevard	Femoyer Street	Douglas Road	67.65	0.0	83.8	180.2	174.0
Douglas Road	Mather Boulevard	Sunrise Boulevard	68.84	0.0	100.6	216.4	466.0
Douglas Road	Sunrise Boulevard	Grant Line Road	65.47	0	60.1	129	277.7
International Drive	South White Rock Road	Zinfandel Drive	69.59	64.1	133.7	286.0	615.1
International Drive	Zinfandel Drive	Sunrise Boulevard	67.12	0.0	92.5	196.3	421.5
White Rock Road	Zinfandel Drive	Sunrise Boulevard	70.51	85.6	175.4	373.4	802.3
White Rock Road	Sunrise Boulevard	Grant Line Road	68.29	0.0	92.4	198.7	427.9
Folsom Boulevard	Zinfandel Drive	Sunrise Boulevard	71.87	89.2	189.0	405.7	873.1
Folsom Boulevard	Sunrise Boulevard	Hazel Avenue	73.09	89.7	192.9	415.2	894.4
Mather Field Road	Folsom Boulevard	U.S. 50 WB ramps	73.01	105.6	224.9	483.2	1,040.2
Mather Field Road	U.S. 50 EB ramps	International Drive	73.26	125.9	265.2	568.3	1,222.8
Zinfandel Drive	Folsom Boulevard	U.S. 50 WB ramps	72.35	95.8	203.5	437.0	940.6
Zinfandel Drive	U.S. 50 EB ramps	White Rock Road	74.21	144.6	306.1	656.9	1,413.8
Zinfandel Drive	White Rock Road	International Drive	70.93	90.6	186.6	397.9	855.2
Sunrise Boulevard	Gold Country Boulevard	Coloma Road	76.78	212.1	453.3	974.7	2,098.8
Sunrise Boulevard	Coloma Road	U.S. 50 WB ramps	77.14	224.0	479.1	1030.5	2,218.9
Sunrise Boulevard	U.S. 50 EB ramps	Folsom Boulevard	75.15	166.3	353.5	759.4	1,634.7
Sunrise Boulevard	Folsom Boulevard	White Rock Road	73.69	134.0	283.0	606.9	1,306.0
Sunrise Boulevard	White Rock Road	Douglas Road	74.69	135.9	290.6	625.1	1,346.0
Sunrise Boulevard	Douglas Road	SR 16	74.86	117.6	253.1	545.0	1,173.9
Sunrise Boulevard	SR 16	Grant Line Road	71.20	67.2	114.4	310.7	669.2
Hazel Avenue	Winding Way	U.S. 50 WB ramps	76.04	166.6	357.2	768.6	1,655.2
Grant Line Road	White Rock Road	Douglas Road	69.64	53.0	113.5	244.3	526.1
Grant Line Road	Douglas Road	SR 16	70.12	57.0	122.2	262.9	566.3
Grant Line Road	SR 16	Sunrise Boulevard	69.34	50.6	108.5	233.3	502.5
U.S. 50	Mather Field Road	Zinfandel Drive	82.10	593.7	1,273.7	2741.2	5,903.4
U.S. 50	Zinfandel Drive	Sunrise Boulevard	81.46	539.0	4,455.4	2486.1	5,353.8
U.S. 50	Sunrise Boulevard	Hazel Avenue	81.02	466.2	1,000.1	2152.3	4,635.2
U.S. 50	Hazel Avenue	Folsom Boulevard	81.00	424.3	911.4	1,961.9	4,225.5

Notes: CNEL = community equivalent noise level; dBA = A-weighted decibels; EB = eastbound; ft = feet; L<sub>dn</sub> = day-night average noise level; SR = State Route; U.S. 50 = U.S. Highway 50; WB = westbound

Traffic noise levels were modeled using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) based on traffic data obtained from the traffic analysis prepared for this project (see Section 3.14, "Traffic and Transportation"). Modeling assumes no natural or human-made shielding (e.g., vegetation, berms, walls, buildings).

Source: Data provided by EDAW in 2005

## **Industrial Land Uses**

Industrial land uses, located primarily along the Sunrise Boulevard corridor west of the project site, include a variety of operations: heavy-equipment repair facilities, equipment and material storage yards, loading-dock operations, concrete batch plants, and various manufacturing operations. Industrial land uses are also located in the Security Park (not part of the project), which is located along the southern boundary of the project site, north of Douglas Road. Hours of operation for these land uses vary, but are generally limited to daytime hours.

Noise levels associated with industrial land uses can vary greatly depending on the activities conducted. Activities involving the use of heavy-duty equipment such as front-end loaders, forklifts, and diesel-powered trucks are common noise sources typically associated with these land uses. Noise typically associated with industrial operations, including the use of heavy-duty equipment, can reach maximum levels of approximately 85 dBA at 50 feet (EPA 1971).

## **Aerojet General Corporation**

Aerojet land is located south of U.S. Highway 50 (U.S. 50) between Mercantile Drive and Prairie City Road, north of the project site. Primary noise-generating activities at this facility have historically been associated with the testing of rocket and high-performance aircraft engines for use in military and aerospace applications. GenCorp Realty Investments, Aerojet's parent company, is currently in the process of phasing out the testing of the large-diameter rocket and aircraft engines at this facility, although testing of smaller engines would continue (Gunderson, pers. comm., 2005). The 65- and 75-dBA noise contours associated with the firing of smaller rocket engines (60,000 pounds of thrust) extend to approximately 7,920 and 4,224 feet, respectively, from the test stand. Additional on-site noise sources associated with this facility include industrial operations such as manufacturing, cleaning, maintenance, heating and cooling, and pollution control activities. Based on prior noise studies conducted at Aerojet, noise from these additional noise sources were not found to exceed County noise standards at nearby off-site receptors (County of Sacramento 1993).

## **Cordova Shooting Center**

The Cordova Shooting Center is located at the northwest corner of the Douglas Road/Sunrise Boulevard intersection, approximately 900 feet west of the project site. The shooting center is described as a full-service shooting facility supporting the use of rifles, pistols, skeet, trap, and sporting clays. Hours of operation vary by season, but are generally limited to the daytime hours of 10 a.m.–8 p.m. on weekdays and 9 a.m.–6 p.m. on weekends. Shooting events such as skeet tournaments and club gatherings occasionally occur during the evening hours.

Noise levels generated by weapons fire depend on the weapons used, local shielding, and atmospheric conditions. Based on past noise measurements conducted at the Cordova Shooting Center, noise levels from weapons fire ranged from approximately 97 to 112 dBA per round at approximately 50 feet. Based on these noise levels, predicted maximum noise levels of 70 dBA could occur at a distance of one-half to 1 mile from this facility, depending on local shielding and atmospheric conditions (County of Sacramento 1993). During the periods for which daytime ambient-noise monitoring was being conducted, intermittent noise generated by weapons fire at the firing range, though discernible at times, was largely masked by noise emanating from vehicle traffic on nearby roadways (e.g., Sunrise Boulevard and Douglas Road).

## **3.16.2 REGULATORY FRAMEWORK**

### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **U.S. Department of Housing and Urban Development**

The guidelines of the U.S. Department of Housing and Urban Development (HUD) for the acceptability of residential land uses are set forth in the Code of Federal Regulations, Title 24, Part 51, “Environmental Criteria and Standards.” These guidelines identify a noise exposure of 65 dBA  $L_{dn}$  or less as acceptable. Noise levels of 65–75 dBA  $L_{dn}$  are considered normally acceptable, provided that appropriate sound attenuation is provided to reduce interior noise levels to within acceptable levels. Noise levels above 75 dBA  $L_{dn}$  are considered unacceptable. The goal of the interior noise levels is 45 dBA  $L_{dn}$ . These guidelines apply only to new construction supported by HUD grants and are not binding upon local communities.

### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **California Building Code**

Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new multifamily residential units in California. These standards require that acoustical studies be performed before construction begins at building locations where the existing day-night average noise level ( $L_{dn}$ ) exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum  $L_{dn}$  to 45 dBA in any inhabitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an  $L_{dn}$  of 45 dBA as an upper limit on interior noise in all residential units.

#### **General Plan Guidelines**

The *State of California General Plan Guidelines*, published by the Governor’s Office of Planning and Research (2003), provides guidance for the acceptability of projects within specific CNEL/ $L_{dn}$  contours. Table 3.16-3 summarizes acceptable and unacceptable community noise exposure limits for various land use categories. Generally, residential uses are considered to be acceptable in areas where exterior noise levels do not exceed 60 dBA CNEL/ $L_{dn}$ . Residential uses are normally unacceptable in areas exceeding 70 dBA  $L_{dn}$  and conditionally acceptable within 55–70 dBA  $L_{dn}$ . Schools are normally acceptable in areas up to 70 dBA CNEL and normally unacceptable in areas exceeding 70 dBA CNEL. Commercial uses are normally acceptable in areas up to 70 dBA CNEL. Between 67.5 and 77.5 dBA CNEL, commercial uses are conditionally acceptable, depending on the noise insulation features and the noise reduction requirements. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community’s sensitivity to noise, and the community’s assessment of the relative importance of noise pollution.

### **REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES**

#### **Mather Airport Land Use Compatibility Plan**

The State of California has adopted airport noise and safety standards that are implemented through Comprehensive Land Use Plans (CLUPs) prepared for public-use airports. The CLUPs are prepared and maintained by the Airport Land Use Commissions (ALUCs). In Sacramento County, the Sacramento Area Council of Governments (SACOG) serves as the ALUC. The noise and safety standards identified in the CLUPs for local airports are implemented through the control of land use around airports with regard to the noise, safety, and height restrictions. SACOG also works with cities and counties to ensure consistency between local land use plans and CLUPs developed for local airports.

**Table 3.16-3  
State of California Noise Compatibility Guidelines by Land Use Category**

Land Use Category	Community Noise Exposure (L <sub>dn</sub> or CNEL, dBA)			
	Normally Acceptable <sup>1</sup>	Conditionally Acceptable <sup>2</sup>	Normally Unacceptable <sup>3</sup>	Clearly Unacceptable <sup>4</sup>
Residential—Low-Density Single-Family, Duplex, Mobile Home	<60	55–70	70–75	75+
Residential—Multiple-Family	<65	60–70	70–75	75+
Transient Lodging, Motel, Hotel	<65	60–70	70–80	80+
School, Library, Church, Hospital, Nursing Home	<70	60–70	70–80	80+
Auditorium, Concert Hall, Amphitheater		<70	65+	
Sports Arenas, Outdoor Spectator Sports		<75	70+	
Playground, Neighborhood Park	<70		67.5–75	72.5+
Golf Courses, Stable, Water Recreation, Cemetery	<75		70–80	80+
Office Building, Business Commercial, and Professional	<70	67.5–77.5	75+	
Industrial, Manufacturing, Utilities, Agriculture	<75	70–80	75+	

Notes: CNEL = community equivalent noise level; dBA = A-weighted decibels; L<sub>dn</sub> = day-night average noise level

<sup>1</sup> Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

<sup>2</sup> New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

<sup>3</sup> New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

<sup>4</sup> New construction or development should generally not be undertaken.

Source: Governor's Office of Planning and Research 2003

The ALUCP for Mather Airport, formerly called the Mather Airport CLUP, was adopted in May 1997 and includes regional policies for land use compatibility with respect to aircraft noise. The ALUCP for Mather Airport requires that as development occurs in the area near the airport, affected cities and counties should evaluate the impact of aircraft noise on proposed development. The ALUCP prohibits new residential development within the 65-dBA CNEL noise contours. The ALUCP noise contours (in CNEL) for Mather Airport, in relation to the project site, are depicted in Exhibit 3.16-2.

In addition, the County is currently in the process of developing the *Mather Airport Master Plan*. The Master Plan will be used to guide airport development over the next 20 years, while attempting to resolve related aviation, environmental, and socioeconomic issues existing in the community. One of the primary issues to be addressed in the plan relates to the exposure of citizens in nearby communities to noise generated by aircraft on approach and departure routes from Mather Airport.

### Rancho Cordova General Plan

The City of Rancho Cordova (City) was incorporated in July 2003, and the City adopted the *Rancho Cordova General Plan* (City General Plan) in June 2006. The General Plan Noise Element identifies noise criteria for various stationary and transportation noise sources. The Noise Element of the City General Plan supersedes the

Noise Element of the *County of Sacramento General Plan* (County General Plan) except where the City General Plan is silent on an issue (e.g., the Mather Airport Policy Area [MAPA], as described below).

Goals and policies of the City General Plan relating to noise that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F. Performance standards for stationary noise sources and maximum allowable noise exposure from transportation noise sources, as specified in the Noise Element of the City General Plan, are included below as Tables 3.16-4, 3.16-5, and 3.16-6 because they are included in the thresholds for determining the significance of impacts for this analysis.

<b>Table 3.16-4 Performance Standards for Typical Stationary Noise Sources— Rancho Cordova General Plan Noise Element</b>		
Noise Level Descriptor	Daytime (7 a.m.–10 p.m.)	Nighttime (10 p.m.–7 a.m.)
Hourly $L_{eq}$ , dB	55	45
Note: dB = decibels; $L_{eq}$ = energy-equivalent noise level Source: City of Rancho Cordova 2005a		

<b>Table 3.16-5 Performance Standards for Stationary Noise Sources that Are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music—Rancho Cordova General Plan Noise Element</b>		
Noise Level Descriptor	Daytime (7 a.m.–10 p.m.)	Nighttime (10 p.m.–7 a.m.)
Hourly $L_{eq}$ , dB	50	40
Note: dB = decibels; $L_{eq}$ = energy-equivalent noise level Source: City of Rancho Cordova 2005a		

<b>Table 3.16-6 Maximum Allowable Noise Exposure, Transportation Noise Sources— Rancho Cordova General Plan Noise Element</b>			
Land Use	Outdoor Activity Areas <sup>1</sup> $L_{dn}$ /CNEL, dB	Interior Spaces	
		$L_{dn}$ /CNEL, dB	$L_{eq}$ , dB <sup>2</sup>
Residential	60 <sup>3</sup>	45	–
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources that produce clearly identifiable, discrete noise events (the passing of a single train, as opposed to relatively steady noise sources such as roadways)	60 <sup>3</sup>	40 <sup>5</sup>	–
Transient Lodging	60 <sup>4</sup>	45	–
Hospitals, Nursing Homes	60 <sup>3</sup>	45	–
Theaters, Auditoriums, Music Halls	–	–	35
Churches, Meeting Halls	60 <sup>3</sup>	–	40
Office Buildings	–	–	45
Schools, Libraries, Museums	–	–	45
Playgrounds, Neighborhood Parks	70	–	–
Note: CNEL = community equivalent noise level; dB = decibels; $L_{dn}$ = day-night average noise level; $L_{eq}$ = energy-equivalent noise level <sup>1</sup> Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area. <sup>2</sup> As determined for a typical worst-case hour during periods of use. <sup>3</sup> Where it is not possible to reduce noise in outdoor activity areas to 60 dB $L_{dn}$ /CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB $L_{dn}$ /CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table. <sup>4</sup> In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply. <sup>5</sup> The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks. Source: City of Rancho Cordova 2005a			

The Noise Element of the County General Plan identifies the MAPA for properties located in the vicinity of Mather Field. The MAPA was approved by the County Board of Supervisors in 1998 and is intended to create additional protection beyond the restrictions described in the ALUCP for Mather Airport. As shown in Exhibit 3.16-2, a significant portion of the project site is located within the MAPA. In addition to prohibiting new residential development within the 65-dBA CNEL contour, per the ALUCP for Mather Airport, the MAPA prohibits new residential development within the 60-dBA CNEL contour. In addition, new residential development within the MAPA, but outside the 60-dBA CNEL contour, may be approved but will be subject to the following conditions:

- ▶ provision of minimum noise insulation to achieve 45 dB within new residential dwellings, including detached single-family dwellings, with windows closed in any habitable room;
- ▶ notification in the public report prepared by the California Department of Real Estate disclosing to prospective buyers that the parcel is located within the MAPA; and

an aviation easement prepared by the County Counsel's Office, granted to the County, recorded with the County Recorder, and filed with the County Department of Airports. Such an aviation easement shall acknowledge the property location within the MAPA and shall grant the right of flight and unobstructed passage of all aircraft into and out of Mather Airport.

### **City of Rancho Cordova Noise Ordinance**

The City Noise Ordinance establishes maximum allowable exterior and interior noise levels for affected land uses. The standards from the City Noise Ordinance are summarized in Table 3.16-7. The ordinance generally limits exterior noise levels (measured at residential land and agricultural land uses) to a maximum of 55 dBA during any cumulative 30-minute period during the daytime hours (7 a.m.–10 p.m.), and 50 dBA during any cumulative 30-minute period during the nighttime hours (10 p.m.–7 a.m.). The ordinance sets somewhat higher noise limits for noise of shorter duration; however, noise shall not exceed 75 dBA during the day and 70 dBA at night. Activities generally considered to be exempt from the noise standards include construction activities (provided that they occur between the daytime hours of 7 a.m.–6 p.m., Monday through Saturday, and 9 a.m.–6 p.m. on Sunday), school athletic and entertainment events, activities conducted on public parks and playgrounds, and transportation noise.

## **3.16.3 ENVIRONMENTAL CONSEQUENCES**

### **THRESHOLDS OF SIGNIFICANCE**

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. These thresholds also encompass the factors taken into account under the National Environmental Policy Act (NEPA) to determine the significance of an action in terms of its context and the intensity of its effects. A noise impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ result in short-term noise levels during construction that would exceed applicable City noise standards (Tables 3.16-4 and 3.16-7) or result in increased levels of annoyance or sleep disruption during noise-sensitive periods of the day (for purposes of this analysis, between 7 p.m. and 7 a.m.);
- ▶ result in long-term stationary-source noise levels that would exceed applicable City noise standards (Tables 3.16-4, 3.16-5, and 3.16-7);
- ▶ result in a noticeable increase in traffic noise levels (i.e., 3 dBA CNEL or greater) or contribute to existing or predicted traffic noise levels that exceed applicable noise standards (Table 3.16-6) at noise-sensitive receptors (persons and land uses);

- ▶ result in predicted noise levels at on-site receptors exceeding applicable noise criteria for land use compatibility (Table 3.16-6); or
- ▶ expose on-site receptors to single-event aircraft noise that would result in potential speech interference or sleep disruption. For purposes of this analysis, speech interference and sleep disruption would be anticipated to occur at noise levels of 60 dBA and 80 dBA SEL, respectively (Caltrans 2002, FICON 1992).

The land use compatibility noise criteria in the City General Plan are listed in Table 3.16-6. Additional noise standards, including the State of California interior noise standards for multifamily residential dwellings (Title 24 of the California Code of Regulations) and the City noise standards for nontransportation noise sources (Tables 3.16-4, 3.16-5, and 3.16-7), were also taken into consideration.

<b>Table 3.16-7 City of Rancho Cordova Noise Control Ordinance Standards</b>			
Land Use	Period of Measurement	Maximum Acceptable Noise Standards	
		Exterior Noise Standards <sup>1</sup>	Interior Noise Standards
Residential, School, Church, Hospital, Agricultural Land Uses	7 a.m.–10 p.m.	55 dBA <sup>2</sup>	-
	10 p.m.–7 a.m.	50 dBA <sup>2</sup>	-
Apartment, Condominium, Townhouse, Duplex, or Multidwelling Unit	10 p.m.–7 a.m. <sup>3</sup>		
	5 minutes/hour:	-	45 dBA
	15 minutes/hour:		50 dBA
	Any period of time:		55 dBA
<p>Note: dBA = A-weighted decibels</p> <p><sup>1</sup> The following noise standards, unless otherwise specifically indicated in the City of Rancho Cordova Municipal Code, shall apply to all properties within a designated noise area.</p> <p><sup>2</sup> Cumulative duration of intrusive sound: It is unlawful for any person within the city to create any noise that causes the noise level on the affected property, when measured in the designated noise area, to exceed for the duration of time set forth following, the specified exterior noise standards in any one hour by (noise limits shall be reduced by 5 dBA for impulsive or simple tone noise, or noise consisting of speech or music):</p> <p>A. 30 minutes: +0 dBA            B. 15 minutes: +5 dBA            C. 5 minutes: +10 dBA            D. 1 minute: +15 dBA            E. Level not to be exceeded for any time: +20 dBA</p> <p>In addition to the above standards, interfering noise at schools, churches, or hospitals, while the same is in use, that is 10 dBA or more greater than the ambient noise level at the building, shall be deemed excessive and unlawful. Residential-use HVAC [heating, ventilation, and air conditioning] system equipment, such as pumps, fans, air conditioners, and cooling towers, shall not exceed 60 dBA at any point at least 1 foot inside the property line of the affected residential or agricultural property line, or 55 dBA when measured in the center of a neighboring patio or at the exterior window of the affected residential unit.</p> <p><sup>3</sup> Based on cumulative periods of time during any one hour. Interior noise levels, when measured in the neighboring unit, shall not exceed the specified standards for the corresponding cumulative period of time during any hour.</p> <p>Source: City of Rancho Cordova Municipal Code, Noise Control Ordinance</p>			

## ANALYSIS METHODOLOGY

Construction-noise and stationary-source noise impacts were calculated based on the distance from source to receptor, assuming an average noise attenuation rate of 6 dBA per doubling of distance. The FHWA Roadway Noise Prediction Model (FHWA-RD-77-108) was used to calculate traffic noise levels along affected roadways, based on estimates of average daily traffic volumes obtained from the traffic analysis prepared for this project.

Increases in traffic noise levels attributable to the proposed project and alternatives under consideration were calculated by comparing the predicted noise levels at 50 feet from the centerline of the near travel lane with and without project-generated traffic, under baseline conditions.

### Program Level Impacts and Mitigation Measures

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

<b>IMPACT 3.16-1</b>
--------------------------

**Temporary Exposure to Construction-Generated Noise.** *Project construction activities could temporarily exceed applicable standards at nearby noise-sensitive receptors.*

PP, HD, IM,  
NF

The project includes a mix of land uses, including residential, commercial, industrial, schools, and open space. Construction of on-site public services, utilities, and other infrastructure improvements, such as roadways and bicycle paths, would be needed to support development of the project. Off-site improvements for proposed roadway alignments and utility construction would also be necessary, including new buildings, parking lots, utility relocations and installations, and roadway construction. Construction of the proposed land uses and improvements would occur in multiple phases over an approximately 20-year buildout period.

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., demolition/land clearing, grading and excavation, erection). Construction noise in any one particular area would be temporary and would include noise from activities such as site preparation, truck hauling of material, pouring of concrete, and use of power tools. Noise would also be generated by construction equipment, including earthmovers, material handlers, and portable generators, and could reach high levels for brief periods. Although noise ranges are generally similar for all construction phases, the grading phase tends to involve the most equipment. The U.S. Environmental Protection Agency (EPA) has found that the noisiest equipment types operating at construction sites typically range from 88 dBA to 91 dBA  $L_{max}$  at 50 feet (Table 3.16-8). Typical operating cycles may involve 2 minutes of full power, followed by 3 or 4 minutes at lower settings. Average noise levels at construction sites typically range from approximately 65 to 89 dBA  $L_{eq}$  at 50 feet, depending on the activities performed (EPA 1971).

The City Noise Ordinance exempts construction operations that occur during the hours of 7 a.m.–6 p.m. Monday through Saturday and 9 a.m.–6 p.m. on Sundays. Construction activities that do not occur during these specified hours are not exempt and would be required to comply with the standards in the City Noise Ordinance and performance standards in the Noise Element of the City General Plan. Activities occurring during the more noise-sensitive evening and nighttime hours of 6 p.m.–7 a.m. Monday through Saturday or 6 p.m.–9 a.m. Sunday are of increased concern given the potential for increased levels of annoyance and potential sleep disruption to occupants of the nearby residential dwellings south of Douglas Road in the SunRidge Specific Plan area. In addition, implementation of the phased development of the site would result in potential disruption of on-site sensitive receptors. It is important to note that currently the only noise-sensitive land uses are the newly developing residential areas south of Douglas Road in the SunRidge Specific Plan area. However, phased development of the project site would result in potential internal noise conflicts.

<b>Table 3.16-8 Construction Equipment Noise Levels</b>		
Type of Equipment	Typical Noise Level (dBA) at 50 feet	
	Without Feasible Noise Control	With Feasible Noise Control <sup>1</sup>
Dozer or Tractor	80	75
Excavator	88	80
Compactor	82	75
Front-end Loader	79	75
Backhoe	85	75
Grader	85	75
Crane	83	75
Generator	78	75
Truck	91	75

Note: dBA = A-weighted decibels  
<sup>1</sup> Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds in accordance with manufacturer's specifications.  
Source: EPA 1971

In addition, construction operations occurring during the daytime hours and in the vicinity of schools or other noise-sensitive daytime land uses such as childcare and convalescent care facilities, hospitals, residences, or places of worship may result in increased interior noise levels. Increases in interior daytime noise levels in excess of 45 dBA  $L_{eq}$ , particularly within school classrooms, are typically considered to result in a potentially significant noise impact (Caltrans 2002). Assuming an average exterior-to-interior noise reduction of 20 dBA (with windows closed), exterior construction-generated noise levels in excess of 65 dBA at the façade of a building would be considered to result in potential increases in interior noise levels in excess of 45 dBA  $L_{eq}$ . Based on this same assumption, and assuming a maximum construction noise level of 89 dBA  $L_{eq}$  and an average attenuation rate of 6 dBA per doubling of distance from the source, construction activities located within approximately 800 feet of daytime noise-sensitive receptors could result in interior noise levels in excess of 45 dBA  $L_{eq}$ . Construction-generated noise would therefore be considered to result in a **direct, potentially significant** temporary noise impact on nearby noise-sensitive land uses. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Environmental-acoustics analyses were conducted for both of the currently permitted mining sites (see the *Aerojet Mining Amendment Mitigated Negative Declaration* [City of Rancho Cordova 2004] and the *Grantline West Mitigated Negative Declaration* [City of Rancho Cordova 2005b]). The results of these analyses indicated that mining activities would not exceed daytime-noise criteria listed in the County Noise Ordinance, which was the adopted ordinance at the time the Mitigated Negative Declarations were prepared. The nearest residences are located 1,200 feet from the Aerojet Mining Amendment site and 5,000 feet from the Grantline West mining site. Results of the environmental-acoustics analyses indicated that under worst-case scenarios, when equipment would be operating closest to these residences, noise levels would not exceed daytime-noise

criteria listed in the County Noise Ordinance. Because no new project-related construction would occur under the No Project Alternative, no sensitive receptors would be exposed to construction noise; thus, no direct or indirect impacts would result. *[Lesser]*

**Mitigation Measure 3.16-1: Implement Measures to Prevent Exposure of Sensitive Receptors to Temporary Construction-Generated Noise.**

PP, HD, IM,  
NF

To reduce impacts associated with noise generated during construction activities, the project applicant(s) for all project phases shall conform to the following requirements:

- ▶ Noise-generating construction operations shall be limited to the hours between 7 a.m. and 7 p.m. Monday through Friday, and between 8 a.m. and 6 p.m. on Saturday and Sunday.
- ▶ All construction equipment and equipment staging areas shall be located as far as possible from nearby noise-sensitive land uses.
- ▶ All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.
- ▶ All motorized construction equipment shall be shut down when not in use to prevent idling.
- ▶ The following measures shall be required for exterior activities that involve the use of heavy-duty construction equipment (see Table 3.16-8) located within 800 feet of occupied noise-sensitive daytime land uses (e.g., school classrooms, childcare and convalescent care facilities, inpatient medical facilities, places of worship):
  - Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site).
  - Written notification of construction activities shall be provided to all noise-sensitive receptors located within 800 feet of construction activities. Notification shall include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, for the project representative to be contacted in the event that noise levels are deemed excessive. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall also be included in the notification.
  - To the extent feasible, acoustic barriers (e.g., lead curtains, sound barriers) shall be constructed to reduce construction-generated noise levels at affected noise-sensitive land uses. The barriers shall be designed to obstruct the line of sight between the noise-sensitive land use and on-site construction equipment. When installed properly, acoustic barriers can reduce construction noise levels by approximately 8–10 dBA (EPA 1971).

**Timing:** During all phases of project construction.

**Enforcement:** City of Rancho Cordova Planning Department.

NP

No mitigation measures are required.

With implementation of Mitigation Measure 3.16-1, construction would be limited to daytime hours, for which associated noise levels are considered exempt from the provisions of the City Noise Ordinance, and equipment

would be properly maintained, sound barriers installed, and setbacks established, resulting in levels below the City's noise standards. Therefore, implementation of this mitigation measure would reduce potentially significant impacts from temporary construction noise under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.16-2**

**Potential Exposure to Stationary-Source Noise Generated by On-site Land Uses.** *Project implementation could result in potential exposure of sensitive receptors to noise levels from on-site stationary sources in excess of applicable standards.*

PP, HD, IM,  
NF

The land use plans under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives feature a mix of various land uses, including residential, industrial, commercial, office, schools, parks, public/institutional land uses, and potentially an amphitheater. The sources and levels of noise typically associated with these land uses are discussed separately below.

**Residential Land Uses**

Occupation of the proposed residential dwellings would expose nearby residences to minor increases in ambient noise levels. Noise typically associated with such development includes amplified music, adults' and children's voices, and noise generated by various recreational activities and lawn maintenance equipment. Activities associated with these land uses would result in only minor and intermittent temporary increases in ambient noise levels, as perceived at the closest residential receptors, primarily during the day and evening hours and less frequently at night. Stationary sources of noise associated with residential land uses are typically limited to the operation of exterior central air conditioning units. Residential-use central air conditioning units typically average approximately 60 dBA or less at 3 feet from the source (EPA 1971). Depending on the distance between residential dwellings, noise levels associated with air conditioning units located within side-yard areas of residential land uses could potentially exceed the City's noise standards. As a result, increased noise levels associated with the proposed residential land uses are considered a **potentially significant, direct** impact. **No indirect** impacts would result.

**Commercial, Office, and Industrial Land Uses**

As discussed previously, the project includes plans for the development of various commercial, office, and industrial land uses. Potential sources of noise associated with these types of land uses can vary substantially. Noise associated with office and public land uses might be limited to occasional parking lot-related noise (e.g., opening and closing of doors, and people talking); however, commercial and light-industrial land uses may include additional noise sources such as the use of forklifts for loading and unloading of materials, as well as the operation of hydraulic lifts, pneumatic tools, and air compressors at automotive repair facilities. Early-morning truck deliveries may also be a source of elevated noise levels at nearby sensitive receptors. Noise from such equipment and activities can reach intermittent levels of up to 90 dBA at 50 feet from the source (EPA 1971). In addition, mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] equipment) housed on the exterior of buildings is also a potential stationary source of noise, especially if these pieces of equipment are not properly enclosed. Based on this noise level, and assuming an attenuation rate of 6 dBA per doubling of distance from the source, areas within approximately 2,500 feet could experience noise levels in excess of 55 dBA.

Operational noise levels associated with the proposed commercial, office, industrial, and public land uses could potentially exceed the City's noise standards at nearby existing and future noise-sensitive receptors. In addition, increases in single-event noise levels, such as backup alarms

from material delivery trucks, occurring during the more noise-sensitive evening and nighttime hours could result in increased levels of disturbance and sleep disruption to occupants of nearby residential dwellings. As a result, increased noise levels associated with the proposed commercial land uses are considered a **potentially significant, direct** impact. **No indirect** impacts would result.

### Schools and Neighborhood Parks

The project includes development of school-related uses and neighborhood parks. Noise-generating activities occurring at such facilities would be controlled by the school and the recreation and park districts, and would depend on facility type. Daytime noise typically associated with schools and neighborhood parks typically includes intermittent noise such as adults' and children's voices, opening and closing of vehicle doors in parking lots, and use of landscape maintenance equipment. School uses may also result in mechanical noise associated with building ventilation systems. Maximum intermittent noise levels commonly associated with parking lots can reach levels of 70 dBA at 500 feet from the occasional sounding of car alarms and amplification of music. Noise levels associated with landscape maintenance activities, including the use of large gasoline-powered mowers and leaf blowers, can range from approximately 66 to 72 dBA at 25 feet. Mechanical noise associated with operation of ventilation equipment required to service school facilities can result in average noise levels of 55 dBA at approximately 175 feet from the source.

Recreational facilities at neighborhood parks, middle schools, and high schools can generate additional noise extending into the evening and nighttime hours during competitive sporting events (e.g., soccer games, football games, and track and field events). Noise sources commonly associated with these types of events include elevated voices from crowds, exterior public-address systems, and musical instruments. Based on noise measurements conducted for similar projects, noise levels typically associated with recreational events (such as soccer games), including noise from spectators and players, can exceed 50 dBA  $L_{eq}$  within 800 feet of the event. If an amplified speaker system is used during sporting events, additional increases in ambient noise levels could occur. Activities occurring during the more noise-sensitive evening and nighttime hours may result in increased levels of annoyance and sleep disruption for occupants of nearby residential dwellings. As a result, increased noise levels associated with the proposed schools and neighborhood parks are considered a **potentially significant, direct** impact. **No indirect** impacts would result.

### Sports Park and Amphitheater

The project may also include an outdoor sports facility/adult sports park. If constructed, the sports facility would be located on 40 acres currently proposed for Industrial Park land uses adjacent to and south of White Rock Road, north of the proposed Community Park. Uses at this facility could include a water slide park, softball complex, soccer fields, and/or a stadium/amphitheatre with capacity to accommodate approximately 3,000 people.

The proposed use of the amphitheater has not yet been specified, although it would likely be used for regional and community events, such as plays, recitals, community celebrations, and concerts. Noise levels generated by amphitheaters are primarily a function of the type of performance to be provided. Noise levels can vary substantially depending on the use. For instance, sound levels associated with symphony orchestra typically average approximately 90 dBA; whereas sound levels from a rock concert with an amplified speaker system can reach levels of approximately 120 dBA at 6 feet (EDAW 2003). Because noise associated with such events is typically

directional, noise levels at equivalent distances to the rear and sides of the amphitheater stage would likely be considerably less than sound levels at areas located directly in front of the stage.

It is anticipated that noise-sensitive receptors that would be affected by amphitheater noise would be residential dwellings located on parcels in the line of site of the stage. However, development of these parcels would occur as part of future project phases and the proximity of future residential development to the amphitheater is currently unknown.

Assuming a maximum noise generation potential of 120 dBA at 6 feet, predicted maximum noise levels at the property line of the residences approximately 1,000 feet away would be approximately 76 dBA. This would exceed City's noise standards and would also result in a substantial increase in ambient noise levels, particularly during the quieter late evening and nighttime hours. As a result, noise generated by the proposed amphitheater uses would be considered to have a **potentially significant** impact to nearby noise-sensitive land uses.

In summary, noise levels generated by on-site stationary sources could result in noise levels at nearby sensitive receptors that would exceed the City's maximum allowable noise standards. In addition, increases in single-event noise levels, such as backup alarms from material delivery trucks at commercial land uses and exterior public-address systems at schools and recreational facilities, could result in increased levels of disturbance and sleep disruption to occupants of nearby residential dwellings, particularly during the more noise-sensitive evening and nighttime hours. This is considered a **direct, potentially significant** impact. **No indirect** impacts would occur. [*Similar*]

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Environmental-acoustics analyses were conducted for both of the currently permitted mining sites (see the *Aerojet Mining Amendment Mitigated Negative Declaration* [City of Rancho Cordova 2004] and the *Grantline West Mitigated Negative Declaration* [City of Rancho Cordova 2005b]). The results of these analyses indicated that mining activities would not exceed daytime noise criteria in the County Noise Ordinance, which was the adopted ordinance at the time the Mitigated Negative Declarations were prepared. The nearest residences are located 1,200 feet from the Aerojet Mining Amendment site and 5,000 feet from the Grantline West mining site. Results of the environmental-acoustics analyses indicated that under worst-case scenarios, when equipment would be operating closest to these residences, noise levels would not exceed daytime noise criteria in the County Noise Ordinance.

Because no project-related stationary-noise sources would be introduced under the No Project Alternative, no sensitive receptors would be exposed to on-site stationary noise sources; thus, **no direct or indirect** impacts would result. [*Lesser*]

#### Mitigation Measure 3.16-2: Implement Measures to Reduce Potential Exposure of Sensitive Receptors to Stationary Source-Generated Noise.

PP, HD, IM, NF To reduce potential long-term exposure of sensitive receptors to noise generated by City-controlled, project-related stationary noise sources from private activities, the City shall evaluate individual facilities, subdivisions, and other project elements for compliance with the City Noise Ordinance and policies contained in the City General Plan. All project elements shall comply with City noise standards. The project applicant(s) for all project phases shall implement the

following measures to assure maximum reduction of project interior and exterior noise levels from operational activities.

- ▶ The proposed land uses shall be designed so that on-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks, parking lots, and recreational-use areas) are located as far as possible from or shielded from nearby noise-sensitive land uses.
- ▶ Residential air conditioning units shall be located a minimum of 10 feet from adjacent residential dwellings, including outdoor entertainment and relaxation areas, or shall be shielded to reduce operational noise levels at adjacent dwellings or designed to meet City noise standards. Shielding may include the use of fences or partial equipment enclosures. To be effective, fences or barriers need to be continuous or solid, with very few gaps, and must block the line of sight to windows of neighboring dwellings. Achieved noise reductions from fences or barriers can vary, but typically range from approximately 5 to 10 dBA, depending on construction characteristics, height, and location.
- ▶ To the extent feasible, residential land uses located within 2,500 feet and within the direct line of sight of major noise-generating commercial and industrial land uses (e.g., loading docks, manufacturing facilities, equipment/vehicle storage and repair facilities, and material processing areas such as concrete batch plants) shall be shielded from the line of sight of these facilities by construction of a sound barrier. To be effective, fences or sound barriers need to be continuous or solid, with very few gaps, and must block the line of sight to windows of neighboring dwellings. Achieved noise reductions from fences or barriers can vary, but typically range from approximately 5 to 10 dBA, depending on construction characteristics, height, and location. The developer shall obtain the services of a professional acoustician to determine the design and location of noise barriers to be constructed.
- ▶ Dual-pane, noise-rated windows; mechanical air systems; exterior wall insulation; and other noise-reducing building materials shall be used.

In addition, the City shall seek to reduce potential long-term exposure of sensitive receptors to noise generated by project-related stationary noise sources from public activities on school grounds, in neighborhood and community parks, and in open-space areas. Specifically, the City shall encourage the controlling agencies (i.e., schools and park and recreation districts) to implement measures to reduce project interior and exterior noise levels to within acceptable levels, including but not limited to the following:

- ▶ On-site landscape maintenance equipment shall be equipped with properly operating exhaust mufflers and engine shrouds, in accordance with manufacturers' specifications.
- ▶ For maintenance areas located within 500 feet of noise-sensitive land uses, the operation of on-site landscape maintenance equipment shall be limited to the least noise-sensitive periods of the day, between the hours of 7 a.m. and 7 p.m.
- ▶ Outdoor use of amplified sound systems within 500 feet of noise-sensitive land uses shall be permitted only between 7 a.m. and 10 p.m. Sunday through Thursday, and between 7 a.m. and 11 p.m. on Friday and Saturday.
- ▶ During subsequent environmental review of future project phases, the project applicant(s) shall demonstrate that the amphitheater and adjacent residences have been designed to reduce noise exposure to noise-sensitive uses to the maximum extent feasible. An acoustical engineer with experience in the prediction and mitigation of outdoor theater sound levels

shall be consulted prior to design and construction of the proposed amphitheater and residences proposed within 1,500 feet of the amphitheater. The acoustical engineer shall identify all feasible mitigation measures available for reducing noise-related impacts to nearby noise-sensitive receptors. Mitigation measures may include, but are not limited to, orientation and location of amphitheater, construction of noise barriers, limitations on speaker orientation, limitations on noise-generation levels, and hours of activity. The project applicant(s) shall incorporate the mitigation measures into the design and operation of the amphitheater and nearby residential uses.

**Timing:** During design review and before the approval of all improvement plans, where applicable for all project phases. For measures that the City should encourage other agencies to undertake, before the approval of final maps for all project phases for noise-generating school and park and recreation sites.

**Enforcement:** City of Rancho Cordova Building and Safety and Planning Departments.

**NP** No mitigation measures are required.

Compliance with the City Noise Ordinance and implementation of additional mitigation measures for the control of stationary-source noise, such as those identified above in Mitigation Measure 3.16-2, would reduce stationary-source noise levels under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. However, stationary-source noise levels from activities on land uses over which the City has limited control could still result in noise levels at nearby sensitive receptors that exceed the City's maximum allowable noise standards. Therefore, this impact would remain **significant and unavoidable**.

**IMPACT  
3.16-3**

**Potential Exposure to Off-site Stationary-Source Noise.** *Project implementation could result in exposure of proposed sensitive receptors to noise levels from off-site stationary sources in excess of applicable standards.*

**PP, HD, IM,  
NF**

Ambient noise levels within the project site would be affected by nearby stationary-noise sources (nontransportation), including industrial, commercial, and recreational land uses. Noise levels associated with these land uses, and potential impacts on on-site receptors, are discussed separately below.

### **Industrial Land Uses**

Industrial land uses, located primarily along the Sunrise Boulevard corridor west of the project site, include heavy-equipment repair facilities, equipment and material storage yards, loading-dock operations, concrete batch plants, and various manufacturing operations. Industrial land uses are also located in the Security Park, which is located adjacent to the project site along the southeastern boundary north of Douglas Road, but not part of the Rio del Oro project. Hours of operation for these land uses vary, but are generally limited to daytime hours.

Noise levels associated with industrial land uses can vary greatly depending on the activities conducted. Activities involving the use of heavy-duty equipment such as front-end loaders, forklifts, and diesel-powered trucks are common noise sources typically associated with these land uses. Noise from industrial activities, including the use of pneumatic tools and heavy-duty motorized equipment and vehicles, can range from approximately 65 to 85 dBA at 50 feet (EPA 1971). Assuming a maximum noise level of 85 dBA at 50 feet, areas located within approximately 1,500 feet of industrial land uses may be exposed to noise levels in excess of the City's daytime noise standard of 55 dBA, depending on the activities conducted.

The project proposes development of residential dwellings within 100 feet of existing industrial land uses located along the western boundary of the project site. As a result, predicted noise levels from existing industrial activities could potentially exceed the City's noise standards at these receptors. In addition, activities occurring during the more noise-sensitive evening and nighttime hours, such as loading-dock operations, may result in increased levels of annoyance and sleep disruption to occupants of nearby planned residential dwellings. Noise levels associated with existing industrial development adjacent to proposed residential housing are considered a **potentially significant, direct** impact. **No indirect** impacts would result.

#### Aerojet General Corporation

Aerojet land is located immediately north of the project site, between White Rock Road and U.S. 50. The primary noise-generating activities at this facility have historically been associated with the testing of rocket and high-performance aircraft engines for use in military and aerospace applications.

Aerojet is currently in the process of phasing out the testing of large rocket engines at this facility; however, the testing of small- to medium-sized rockets is anticipated to continue (Gunderson, pers. comm., 2005). Past noise studies conducted at this facility concluded that the 65- and 75-dBA noise contours for the testing of small- to medium-sized rocket engines (60,000 pounds of thrust or less) would extend to a maximum of approximately 7,920 and 4,224 feet, respectively, from the test stand. Noise from engine testing typically occurs during the daytime hours for periods of 1–60 seconds (County of Sacramento 1993). Additional on-site noise sources associated with this facility include industrial operations such as manufacturing, cleaning, maintenance, heating and cooling, equipment operations, and pollution control activities (County of Sacramento 1993; Gunderson, pers. comm., 2005). Noise from these additional noise sources can generate noise levels ranging from less than 50 dBA to approximately 110 dBA at 3 feet from the source (EPA 1971).

The nearest active rocket-engine testing pad is located more than 4,224 feet from the project site. Consequently, noise from ongoing rocket-engine testing at the Aerojet facility would not be anticipated to exceed City noise standards at proposed noise-sensitive land uses located within the project site. Thus, noise levels associated with Aerojet north of proposed residential housing are considered a **less-than-significant, direct** impact. **No indirect** impacts would result.

#### Cordova Shooting Center

The Cordova Shooting Center is located at 11551 Douglas Road, at the northwest corner of the Douglas Road/Sunrise Boulevard intersection, approximately 900 feet west of the project site. The shooting center includes outdoor rifle, pistol, skeet, trap, and sporting clay ranges. Hours of operation vary by season, but are generally limited to the daytime hours of 10 a.m.–8 p.m. on weekdays and 9 a.m.–6 p.m. on weekends. Shooting events, such as skeet tournaments, occasionally occur during the evening hours.

Noise levels generated by weapons fire are dependent on the weapons used, local shielding, and atmospheric conditions. Based on measurements conducted at the Cordova Shooting Center, noise levels from weapons fire ranged from approximately 97 to 112 dBA per round at 50 feet. Based on these noise levels, predicted maximum noise levels of 70 dBA could occur at a distance of one-half to 1 mile from this facility, depending on local shielding and atmospheric conditions (County of Sacramento 1993).

The nearest proposed residential land use is a 10-acre high-density housing development behind a proposed retail center in the southwestern portion of the project site, approximately one-half

mile from the Cordova Shooting Center. Intermittent noise generated by daytime weapons fire at the firing range, though discernible at times, would be largely masked by noise emanating from vehicle traffic on nearby roadways (i.e., Sunrise Boulevard and Douglas Road). However, weapons fire occurring during the quieter evening hours, such as tournament and club events occasionally held at the shooting center, would likely be increasingly discernible. Predicted noise levels at these nearest receptors could potentially exceed the City’s noise standards. Shooting events occurring during the evening hours may result in increased levels of annoyance and potential sleep disruption to occupants of nearby planned residential dwellings. Noise levels associated with the existing Cordova Shooting Center in the vicinity of proposed residential housing are considered a **potentially significant, direct** impact. **No indirect** impacts would result.

In summary, noise levels generated by off-site stationary sources could result in noise levels at proposed receptors that would exceed the City’s maximum allowable noise standards. This is considered a **potentially significant, direct** impact. **No indirect** impacts would occur. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. However, continued mining at the current mining sites would not result in exposure of workers to off-site stationary-source noise in excess of the City Noise Ordinance.

Because no new sensitive receptors would be introduced to the project site under the No Project Alternative, no sensitive receptors would be exposed to off-site stationary noise sources; thus, **no direct or indirect** impacts would result. *[Lesser]*

**Mitigation Measure: Implement Mitigation Measure 3.16-2.**

Compliance with the City Noise Ordinance and implementation of any additional mitigation measures for the control of stationary-source noise, such as those identified above in Mitigation Measure 3.16-2, would reduce stationary-source noise impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. Implementation of Mitigation Measure 3.16-2 would reduce interior noise levels to a less-than-significant level. However, exterior noise levels could still exceed applicable land-use compatibility noise standards. No additional feasible mitigation measures are available to further reduce exterior noise levels; therefore, this impact remains **significant and unavoidable**.

**IMPACT  
3.16-4**

**Project-Generated Increases in Traffic Noise Levels on Area Roadways.** *Project implementation would introduce new traffic to area roadways, resulting in an associated increase in traffic noise levels.*

PP

The increase in daily traffic volumes resulting from implementation of the Proposed Project Alternative would generate increased noise levels along nearby roadway segments as shown in Table 3.16-9. The FHWA Traffic Noise Prediction Model (FHWA 1988) was used to calculate traffic noise levels along affected roadways for baseline traffic conditions, with and without implementation of the Proposed Project Alternative, based on the trip distribution estimates obtained from the traffic analysis prepared for this project (see Section 3.14, “Traffic and Transportation”). The project’s contribution, under the Proposed Project Alternative, to the existing traffic noise levels along area roadways was determined by comparing the predicted noise levels with and without project-generated traffic.

**Table 3.16-9  
Summary of Modeled Cumulative (Year 2030) Traffic Noise Levels**

Roadway Segment	Between		Predicted Noise Level (dBA CNEL/L <sub>dn</sub> ) at 50 Feet from Near Travel Lane Centerline		
			Cumulative Without Project	Cumulative With Project	Difference
SR 16	Excelsior Road	Eagles Nest Road	73.88	73.88	0.00
SR 16	Sunrise Boulevard	Grant Line Road	73.99	74.04	0.05
Kiefer Boulevard	Grant Line Road	North of SR 16	71.36	71.97	0.61
Mather Boulevard	Femoyer Street	Douglas Road	71.97	72.23	0.26
Douglas Road	Mather Boulevard	Sunrise Boulevard	72.82	73.91	1.09
International Drive	South White Rock Road	Zinfandel Drive	75.56	76.90	1.34
International Drive	Zinfandel Drive	Kilgore Road	74.07	76.59	2.52
White Rock Road	Zinfandel Drive	Sunrise Boulevard	71.18	73.05	1.87
White Rock Road	Sunrise Boulevard	Grant Line Road	73.44	75.81	2.37
Folsom Boulevard	Zinfandel Drive	Sunrise Boulevard	72.80	72.92	0.12
Folsom Boulevard	Sunrise Boulevard	Hazel Avenue	73.99	74.06	0.07
Mather Field Road	Folsom Boulevard	U.S. 50 WB ramps	73.99	74.22	0.23
Mather Field Road	U.S. 50 EB ramps	International Drive	75.44	76.14	0.70
Zinfandel Drive	Folsom Boulevard	U.S. 50 WB ramps	72.47	72.80	0.33
Zinfandel Drive	U.S. 50 EB ramps	White Rock Road	76.30	77.16	0.86
Zinfandel Drive	White Rock Road	International Drive	74.51	74.88	0.37
Sunrise Boulevard	Gold Country Boulevard	Coloma Road	77.50	78.03	0.53
Sunrise Boulevard	Coloma Road	U.S. 50 WB ramps	78.04	78.60	0.56
Sunrise Boulevard	U.S. 50 EB ramps	Folsom Boulevard	75.19	76.23	1.04
Sunrise Boulevard	Folsom Boulevard	White Rock Road	74.26	75.71	1.45
Sunrise Boulevard	White Rock Road	Douglas Road	75.51	76.76	1.25
Sunrise Boulevard	SR 16	Grant Line Rd	72.73	73.32	0.59
Hazel Avenue	Winding Way	U.S. 50 WB ramps	77.79	78.09	0.30
Grant Line Road	White Rock Road	Douglas Road	74.50	74.63	0.13
Grant Line Road	Douglas Road	SR 16	73.5	73.58	0.08
Grant Line Road	SR 16	Sunrise Boulevard	72.03	72.41	0.38
U.S. 50	Mather Field Road	Zinfandel Drive	82.78	83.03	0.25
U.S. 50	Zinfandel Drive	Sunrise Boulevard	81.86	82.64	0.78
U.S. 50	Sunrise Boulevard	Rancho Cordova Parkway	82.31	82.31	0.00
U.S. 50	Rancho Cordova Parkway	Hazel Avenue	82.68	83.18	0.50
U.S. 50	Hazel Avenue	Folsom Boulevard	81.61	82.01	0.40
Douglas Road	Sunrise Boulevard	Jaeger Road	73.76	74.60	0.84
Douglas Road	Americanos Boulevard	Grant Line Road	71.73	72.69	0.96

**Table 3.16-9 (continued)  
Summary of Modeled Cumulative (Year 2030) Traffic Noise Levels**

Roadway Segment	Between		Predicted Noise Level (dBA CNEL/Ldn) at 50 Feet from Near Travel Lane Centerline		
			Cumulative Without Project	Cumulative With Project	Difference
Douglas Road	Jaeger Road	Americanos Boulevard	70.85	71.88	1.03
Chrysanthy Boulevard	Sunrise Boulevard	Jaeger Road	68.29	68.87	0.58
Chrysanthy Boulevard	Jaeger Road	Americanos Boulevard	70.22	71.14	0.92
Kiefer Boulevard	Eagles Nest Road	Sunrise Boulevard	72.43	72.45	0.02
Kiefer Boulevard	Sunrise Boulevard	Jaeger Road	68.64	68.73	0.09
Eagles Nest Road	Mather Boulevard	Douglas Road	73.66	73.81	0.15
Eagles Nest Road	Douglas Road	Kiefer Boulevard	70.51	70.63	0.12
Eagles Nest Road	Kiefer Boulevard	SR 16	68.78	68.92	0.14
Sunrise Boulevard	Douglas Road	Chrysanthy Boulevard	74.96	75.98	1.02
Sunrise Boulevard	Chrysanthy Boulevard	Kiefer Boulevard	73.68	74.64	0.96
Sunrise Boulevard	Kiefer Boulevard	SR 16	74.34	74.98	0.64
Rancho Cordova Parkway	U.S. 50	Easton Valley Parkway	75.19	76.55	1.36
Rancho Cordova Parkway	Easton Valley Parkway	White Rock Road	74.33	76.29	1.96
Rancho Cordova Parkway	White Rock Road	Douglas Road	71.86	74.99	3.13
Jaeger Road	Douglas Road	Chrysanthy Boulevard	71.21	73.69	2.48
Jaeger Road	Chrysanthy Boulevard	Kiefer Boulevard	69.01	70.92	1.91
Americanos Boulevard	White Rock Road	Douglas Road	71.63	73.88	2.25
Americanos Boulevard	Douglas Road	Chrysanthy Boulevard	70.98	72.43	1.45
Excelsior Road	North of SR 16		71.04	72.29	1.25
SR 16	West of Excelsior Road		72.98	73.03	0.05

Notes: CNEL = community noise equivalent level; dBA = A-weighted decibels; EB = eastbound; FHWA = Federal Highway Administration; L<sub>dn</sub> = day-night average noise level; SR = State Route; U.S. 50 = U.S. Highway 50; WB = westbound

Traffic noise levels were modeled using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) based on traffic data obtained from the traffic analysis prepared for this project (see Section 3.14, "Traffic and Transportation"). Modeling assumes no natural or human-made shielding (e.g., vegetation, berms, walls, buildings).

Data provided by EDAW in 2006

Table 3.16-9 summarizes the CNEL/L<sub>dn</sub> at 50 feet from the centerline of the near travel lane of area roadways for cumulative (year 2030) conditions, with and without buildout of the project site. Table 3.16-9 also shows the net difference in roadside noise levels for the two scenarios analyzed. Modeled roadway noise levels assume no natural or artificial shielding between the roadway and the receptor. A noticeable increase of 3 dBA (CNEL/L<sub>dn</sub>) would typically occur with a doubling of roadway traffic volumes. As shown in Table 3.16-9, traffic generated by buildout of the project would contribute to the greatest increase in traffic noise along Rancho Cordova Parkway between White Rock and Douglas Roads (3.13 dBA)., This would constitute a noticeable increase in traffic noise levels (i.e., 3 dBA or greater); however, this roadway segment is located entirely on-site, and traffic along this roadway would not affect off-site sensitive receptors. Noise levels along this roadway segment are discussed below, under Impact 3.16-5. Implementation of the Proposed Project Alternative would not result in a noticeable (i.e., 3 dBA) increase in ambient noise levels along other nearby roadways.

Because future growth is expected to surround the project site with traffic-generating development by 2030, resulting in greater areawide and on-site noise levels, full buildout of development on the project site itself would not contribute to noticeable (i.e., 3 dBA or greater) increases in ambient noise levels at noise-sensitive land uses that exceed land use compatibility noise criteria. (Cumulative traffic noise impacts are discussed later in this section.) This **direct** impact is considered **less than significant**. **No indirect** impacts would occur.

- HD** Under the High Density Alternative, there would be a slightly higher number of trips generated on area roadways than under the Proposed Project Alternative. Noticeable increases of 3 dBA (CNEL/L<sub>dn</sub>) typically occur with a doubling of roadway traffic volumes and when volumes are already high (several thousand vehicles per day). However, there would not be enough additional trips to result in noise level increases of 3 dBA, or higher under this alternative. As a result, this **direct** impact is considered **less than significant**, although it would occur at a slightly greater level than under the Proposed Project Alternative. **No indirect** impacts would occur. [*Greater*]
- IM** Under the Impact Minimization Alternative, slightly fewer trips would be generated on area roadways than under the Proposed Project Alternative. Noticeable increases of 3 dBA (CNEL/L<sub>dn</sub>) typically occur with a doubling of roadway traffic volumes and when volumes are already high (several thousand vehicles per day). However, there would not be enough additional trips to result in noise level increases of 3 dBA, or higher under this alternative. As a result, this **direct** impact is considered **less than significant**, and would be slightly less than under the Proposed Project Alternative. **No indirect** impacts would occur. [*Similar*]
- NF** Under the No Federal Action Alternative, slightly fewer trips would be generated on area roadways than under the Proposed Project Alternative. Noticeable increases of 3 dBA (CNEL/L<sub>dn</sub>) typically occur with a doubling of roadway traffic volumes and when volumes are already high (several thousand vehicles per day). However, there would not be enough additional trips to result in noise level increases of 3 dBA, or higher under this alternative. As a result, this **direct** impact is considered **less than significant**, and would be slightly less than under the Proposed Project Alternative. **No indirect** impacts would occur. [*Similar*]
- NP** Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. As discussed in the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005b), each of the two mining sites is expected to employ six employees. The use of existing area roadways by these

employees would not cause a substantial increase in vehicle trips or congestion at intersections in relation to the existing traffic load, nor would it cause degradation in level of service. Although aggregate materials would be hauled off-site, the amount of truck traffic on area roadways would remain constant because the same number of trucks from other mining sites would be rerouted for use at the new Grantline West site. Existing trucks currently being used at the Aerojet mining site would continue to be used for additional mining activities at that location.

Because no new traffic would be generated under the No Project Alternative, traffic noise levels on area roadways would not increase; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

**IMPACT  
3.16-5**

**Compatibility of Proposed Land Uses with Projected Noise Levels.** *Noise levels could exceed the City's applicable land-use compatibility noise standards at proposed noise-sensitive land uses located close to airport, roadway, and mining noise sources.*

PP

Noise levels within the project site are influenced largely by aircraft associated with Mather Airport and vehicle traffic on area roadways. Predicted noise contours associated with Mather Airport are presented in Exhibits 3.16-2 and 3.16-3. The compatibility of proposed land uses with respect to aircraft, vehicle traffic, and mining noise under the Proposed Project Alternative is discussed below.

**Mather Airport**

Noise that emanates away from airports and airplane flight paths is typically represented by concentric noise contours around the airport. The contours delineate zones where land use is restricted, protecting the citizens on the ground from the detrimental effects of exposure to excessive aircraft noise. The contours are constructed using noise samples from around the airport, combined with specific computer noise models that indicate the location of each contour line. The contours are developed taking into account the number, time of day, and frequency of aircraft operations, as well as variations in monthly and seasonal flight schedules. The result is a 24-hour day/night average noise contour, depicted in CNEL, that is used to assist in the determination of compatible land uses around the airport.

The currently adopted CNEL noise contours, obtained from the ALUCP for Mather Airport, are depicted in Exhibit 3.16-2. These noise contours, however, have recently been proposed for revision as part of the development of the *Mather Airport Master Plan*, which is currently being prepared by the Sacramento County Airport System. The noise contours were revised to account for changes in aircraft operations that have occurred since development of the ALUCP for Mather Airport, or that are projected to occur. The proposed CNEL noise contours for Mather Airport, in relationship to the project site and proposed land uses, are presented in Exhibit 3.16-3. The predicted noise contours do not take into account shielding or reflection of noise by existing structures. As a result, the noise contours should be considered to represent bands of similar noise exposure, rather than absolute lines of demarcation. Actual noise levels will vary from day to day depending on a number of factors, including traffic volumes, shielding by existing structures, variations in attenuation rates because of changes in surface parameters, and meteorological conditions.

Proposed noise-sensitive land uses would not be located within the 60-dBA CNEL contour shown in the revised Mather Airport noise-contour map (Exhibit 3.16-3); thus, they would be considered compatible with these updated contours. However, some proposed noise-sensitive land uses would be located within the 60-dBA CNEL contour shown in the noise-contour map

for the currently adopted ALUCP for Mather Airport (Exhibit 3.16-2). Because the updated Mather Airport noise contours have yet to be adopted by the ALUC, this **direct** impact is considered **significant**. However, this impact conclusion would change should the ALUCP be revised to incorporate the revised Mather Airport noise contours currently being developed as part of the *Mather Airport Master Plan* (Exhibit 3.16-3). **No indirect** impacts would result.

### Mining Activities

Aggregate mining and reclamation of certain portions of the project site will occur over a period of several years, and will involve the excavation and relocation or removal of portions of the existing deposits of dredge tailings. Mining activities are separate actions from the project, and will take place under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more individual Implementation Permits expected to be issued by the City. To date, two mining permits have been approved for areas in the eastern and western portion of the project site. Noise impacts associated with mining were evaluated as part of the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) and the *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005b). According to these documents, on-site mining activities would be limited to daytime hours and are anticipated to occur in stages over a period of several years. Mining equipment is anticipated to include front-end loaders, aggregate screens, and conveyor belts. The average noise levels of mining activities (without shielding) were measured at approximately 73 dBA at 150 feet (City of Rancho Cordova 2004). Based on this noise level and assuming an average attenuation rate of 6 dBA per doubling of distance from the source, areas within approximately 1,100 feet of mining activities could exceed the City's daytime noise standard of 55 dBA.

Depending on the location of on-site mining activities in relation to future development of project-generated on-site land uses, mining could generate noise levels that would exceed the City's maximum allowable daytime noise standards at nearby receptors. This is considered a **potentially significant, direct** impact. **No indirect** impacts would occur.

### Roadway Traffic Noise Levels

Predicted traffic noise levels within the project site were calculated using the FHWA Noise Prediction Model (FHWA-RD-77-108) based on traffic information (i.e., average daily traffic, vehicle speeds, roadway width) obtained from the traffic analysis prepared for this project (see Section 3.14, "Transportation and Traffic"). Input data used in the model included average daily traffic levels for nearby area roadways (Table 3.16-9), day/night percentages of autos, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Traffic noise levels were calculated for future cumulative conditions at buildout (year 2030) with and without buildout of the project; these noise levels are summarized in Table 3.16-9.

The 60-dBA CNEL noise contours for adjacent roadways (i.e., Sunrise Boulevard, Douglas Road, and White Rock Road) and on-site proposed roadways (i.e., Rancho Cordova Parkway and Americanos Boulevard) extend onto portions of the project site, including areas of proposed single-family and multifamily residential development (see Table 3.16-9). Predicted on-site noise levels at residential dwellings located within these projected noise contours could potentially exceed the City's land-use compatibility standard of 60 dBA CNEL. In addition, predicted traffic noise levels at the proposed high school/middle school located east of the proposed Rancho Cordova Parkway and north of the proposed Rio del Oro Parkway would likewise exceed the acceptable land-use compatibility standard of 60 dBA CNEL. Thus, on-site noise levels at residential dwellings within the 60-dBA CNEL noise contours for adjacent roadways would be considered a **significant** impact.

In summary, based on the transportation noise analyses conducted for the Proposed Project Alternative, predicted on-site noise levels from area roadways would exceed the City's applicable land-use compatibility noise standards at proposed noise-sensitive land uses. In addition, noise from Mather Airport and mining activities could also exceed the City's applicable land-use compatibility noise standards at proposed noise-sensitive land uses. Consequently, this impact is considered **significant**. Both **direct** and **indirect** impacts would occur.

- HD Under the High Density Alternative, there would be more sensitive receptors on-site and a slightly higher number of trips would be generated on area roadways than under the Proposed Project Alternative. On-site roadway traffic noise levels would be slightly higher than under the Proposed Project Alternative, and 60-dBA noise contours would extend farther into sensitive land uses. Land use compatibility with respect to noise levels from Mather Airport and mining activities would be the same as under the Proposed Project Alternative. This impact is considered **significant**. Both **direct** and **indirect** impacts would occur. *[Greater]*
- IM Under the Impact Minimization Alternative, there would be fewer receptors on-site and fewer trips would be generated on area roadways than under the Proposed Project Alternative. Thus, on-site roadway traffic noise levels would be less than those under the Proposed Project Alternative. Land use compatibility with respect to noise levels from Mather Airport and mining activities would be the same as under the Proposed Project Alternative. This impact is considered **significant** and would result in both **direct** and **indirect** impacts. *[Lesser]*
- NF Under the No Federal Action Alternative, there would be fewer receptors on-site and fewer trips would be generated on area roadways than under the Proposed Project Alternative. Thus, on-site roadway traffic noise levels would be less than those under the Proposed Project Alternative. Land use compatibility with respect to noise levels from Mather Airport and mining activities would be the same as under the Proposed Project Alternative. This impact is considered **significant** and would result in both **direct** and **indirect** impacts. *[Lesser]*
- NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not generate any sensitive receptors.

Because no new project-related sensitive receptors would be generated under the No Project Alternative, no sensitive receptors would be exposed to noise generated from the airport, roadways, or mining activities; thus, **no direct** or **indirect** impacts would result. *[Lesser]*

#### Mitigation Measure 3.16-5: Implement Measures to Improve Land Use Compatibility with Noise Sources.

- PP, HD, IM, NF To meet City noise standards set forth in the City General Plan and Noise Ordinance and improve compatibility between project land uses and noise sources, the project applicant(s) for all project phases shall implement the following for all project phases:
- ▶ Implement Mitigation Measure 3.16-2 described above.
  - ▶ Obtain the services of a consultant (such as a licensed engineer or licensed architect) to develop noise attenuation measures for the proposed construction of on-site noise-sensitive land uses (i.e., residential dwellings and school classrooms) that will produce a minimum composite Sound Transmission Class (STC) rating for buildings of 30 or greater, individually computed for the walls and the floor/ceiling construction of buildings, for the proposed construction of on-site noise-sensitive land uses (i.e., residential dwellings and school

classrooms).

- ▶ When tentative subdivision maps and commercial uses are proposed, the project applicant(s) shall conduct a site-specific acoustical analysis to determine predicted roadway noise impacts attributable to the project, taking into account site-specific conditions (e.g., site design, location of structures, building characteristics). The acoustical analysis shall evaluate stationary- and mobile-source noise attributable to the proposed use or uses and impacts on nearby noise-sensitive land uses, in accordance with adopted City noise standards. Feasible measures shall be identified to reduce project-related noise impacts. Measures may include, but are not limited to, the following:
  - construction of exterior sound walls;
  - use of increased noise-attenuation measures in building construction (e.g., dual-pane, sound-rated windows; exterior wall insulation); and
  - limiting noise-generating operational activities associated with proposed commercial land uses, including truck deliveries.

In addition, to reduce impacts associated with noise generated during ongoing mining activities, the project applicant(s) for all project phases shall implement the following measures where mining activities would be located within 1,100 feet of occupied noise-sensitive daytime land uses (e.g., school classrooms, childcare and convalescent care facilities, inpatient medical facilities):

- ▶ Written notification of mining activities shall be provided to noise-sensitive receptors located within 1,100 feet of mining activities. Notification shall include anticipated hours during which mining activities are anticipated to occur and contact information, including a daytime telephone number, for the project representative to be contacted if noise levels are deemed excessive. The notification shall also include recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors).
- ▶ Occupied noise-sensitive receptors shall not be located within 1,100 feet of mining equipment/activities unless a temporary barrier is constructed in accordance with the following specifications:
  - The barrier shall be placed as close to the noise source or as close to the receptor as possible and shall break the line of sight between the source and receptor.
  - The barrier shall be constructed of three-quarter-inch Medium Density Overlay (MDO) plywood sheeting, or other acceptable material that has a surface weight of 2 pounds per square foot (lb/sf) or greater and a demonstrated STC rating of 25 or greater, as defined by American Society for Testing and Materials (ASTM) Test Method E90.
  - If a temporary acoustical curtain is used, the material shall be weather and abuse resistant and shall exhibit superior hanging and tear strength during construction, with a surface weight of at least 1 lb/sf. The material shall have a minimum breaking strength of 120 pounds per inch (lb/in) per Federal Test Method Standard (FTMS) 191 A-M5102 and a minimum tear strength of 30 lb/in per ASTM D117. Based on the same test procedures, the absorptive material facing shall have a minimum breaking strength of 100 lb/in and a minimum tear strength of 7 lb/in. The material shall have an STC rating of 25 or greater, based on certified sound transmission loss data taken according to ASTM Test Method E90. It shall also have a Noise Reduction Coefficient rating of 0.70 or greater, based on

certified sound absorption coefficient data according to ASTM Test Method C423.

- When barrier units are joined together, the mating surfaces of the barrier sides shall be flush with each other. Gaps between barrier units, and between the bottom edge of the barrier panels and the ground, shall be closed with material that will completely close the gaps, and be dense enough to attenuate noise.

Furthermore, to reduce impacts associated with aircraft noise, the project applicant(s) for all project phases shall implement the following measures:

- ▶ Ensure that aviation easements are prepared before completion of final maps, and submitted with the final maps to the Department of Airports. Such aviation easements shall acknowledge the property's location within the MAPA and shall grant the right of flight and unobstructed passage of all aircraft into and out of Mather Airport.
- ▶ Provide notification in a public report, to be prepared by the California Department of Real Estate, disclosing to prospective buyers that parcels to be purchased are located within the MAPA and that an aviation easement exists for aircraft into and out of Mather Airport. Revise relevant portions of project land use plans to be compatible with the existing noise contours if the proposed Mather Airport noise contours are not adopted.

**Timing:** Before the recordation of final maps and during all project construction activities for all project phases where applicable.

**Enforcement:** City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.16-5 would likely be effective in reducing interior noise levels of new development to less-than-significant levels under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. However, exterior noise levels related to roadway traffic and mining activities would be anticipated to exceed applicable land-use compatibility noise standards. Because no feasible mitigation measures are available to reduce all exterior noise levels to be compatible with City noise standards, this impact would remain **significant and unavoidable**. The Mather noise contours are not triggering this conclusion. Impacts from mining activities and area roadways are unavoidable and attenuation measures are infeasible.

**IMPACT  
3.16-6**

**Potential Exposure to Single-Event Aircraft Noise Levels Exceeding Applicable Standards.** *Project implementation could result in exposure of proposed sensitive receptors to single-event aircraft noise levels in excess of applicable standards.*

PP, HD, IM,  
NF

Noise intrusion from aircraft operations is often perceived as more disturbing than noise from other sources, such as traffic on area roadways, because of its sporadic nature and high noise levels. The noise produced by aircraft also varies over a wide frequency range, generating audible low-frequency (experienced as a rumble or vibration) and high-frequency noise. Low-frequency noise (below 500 Hz) penetrates walls, roofs, doors, and windows more effectively than high-frequency noise. Higher frequencies (above 1,000 Hz) transmit better through cracks, ducts, and vents. Most of the sound energy from aircraft operations is found at lower frequencies, which can also cause structural vibrations in dwellings and increased levels of annoyance, particularly during the more noise-sensitive evening and nighttime hours. Impact 3.16-5 above analyzes the land use compatibility of the proposed uses with aircraft operations with respect to the Mather Airport CNEL noise contours. Such contours, which represent a 24-hour average noise level, include single events. Impact 3.16-6 specifically addresses the single-event impact.

There are currently no federal or state standards or criteria for the evaluation and planning of land uses with relation to single-event aircraft noise. Research conducted on single-event aircraft noise has focused primarily on specific human reactions such as speech interference and sleep disturbance. Research conducted by EPA and the Federal Aviation Administration (FAA) has suggested that the threshold of speech interference is 60 dBA. From a technical perspective, whenever intrusive noise exceeds approximately 60 dBA indoors, there will be interference with speech communication. This interference may result from masking of the speaker's words or by causing the speaker to pause. Increasing the indoor level of intrusive noise to 80 dBA reduces intelligibility to near zero, even if a loud voice is used. Based on the average levels of noise reduction (attenuation) provided by typical residential construction (15 dBA with windows open and 20 dBA with windows closed), some degree of indoor speech interference would be expected whenever exterior noise levels exceed 80 dBA with windows open or 90 dBA with windows closed. School classrooms that demand a quiet background are of particular concern. The degradation of speech communication within a classroom may affect the learning process (FICON 1992).

For sleep disruption, the threshold of significance is less absolute because there is more variability from one person to another. Results of several studies (Caltrans 2002) indicated that 10% of the study population was awakened at 80 dBA SEL.

Based on the ambient noise monitoring conducted for this project in 2005, intermittent noise levels associated with aircraft overflight of the project site vary depending on various factors, including type of aircraft, flight path, meteorological conditions, and altitude.

Intermittent aircraft noise levels documented during the ambient noise surveys conducted for this project are summarized in Table 3.16-10. Measurements were conducted along the western boundary of the project site, beneath the Mather Airport flight path. As indicated, SELs from aircraft overflight of the project site range from approximately 65 to 96 dBA  $L_{max}$  and from approximately 71 to 102 dBA SEL. It should be noted that these measurements are based on a limited number of aircraft overflights and that actual noise levels may vary. Nonetheless, assuming a maximum noise level of 102 dBA SEL and an average exterior-to-interior noise reduction of 20 dBA, predicted maximum interior noise levels could reach 82 dBA. Interior

Aircraft Type	Altitude (Feet)	Speed (knots) <sup>a</sup>	Number of Operations	Noise Level (dBA) <sup>b</sup>	
				$L_{max}$	SEL
Propeller/turboprop	702–764	76–109	4	65–73	71–79
Helicopter	807	86	1	72	80
Commercial jet	682–794	101–157	4	78–79	86–88
Military jet	515–768	167–202	3	80–96	87–102
Notes: dBA = A-weighted decibels; $L_{max}$ = maximum sound level recorded for each event; SEL = sound exposure level					
a Aircraft altitude and speed are approximate, based on interpretation of flight track data obtained from the Sacramento County Airport System in 2005.					
b Measurements performed February 23, 2005, using a Larson Davis 820 integrating sound level meter positioned at a height of 5 feet above ground level. Measurements were conducted at the western property line of the project site, below the approach flight path for instrument landing systems. The single-event noise meter threshold was set to approximately 10 dBA above background noise levels.					
Sources: Data provided by AMBIENT Air Quality & Noise Consulting in 2005; SCAS 2005					

noise levels would exceed the commonly applied thresholds of 60 dBA for speech interference and 80 dBA for sleep disruption. Mather Airport operates 24 hours per day; therefore, single-event aircraft noise can occur at any time during the day or night. Consequently, exposure to single-event aircraft noise would be considered a **direct, significant** impact. **No indirect** impacts would occur. *[Similar]*

**NP** Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Although the mining sites are within 2 miles of Mather Airport, they are not within the area covered by the ALUCP for Mather Airport, and noise levels from mining activities would have no effect on Mather Airport safety or operations.

Because there would be no new sensitive receptors under the No Project Alternative, no sensitive receptors would be exposed to single-event aircraft noise; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

**Mitigation Measure: Implement Applicable Portions of Mitigation Measure 3.16-5.**

Implementation of the aviation easement and public notification are recommended by the County to ensure that occupants of new land uses within airport planning areas are aware of potential aircraft noise impacts. Implementation of the acoustical analysis and associated mitigation measures would help to reduce sound intrusion into noise-sensitive buildings (i.e., residential dwellings, classrooms), including single-event noise from aircraft. An acoustically well-insulated building with windows and doors kept closed can provide 30 dB of noise attenuation, whereas more typical unmodified buildings might provide 20–25 dB of noise-level reduction. Providing more than 40 dB of noise-level reduction is not usually practical for a typical building (Wyle Laboratories 1994).

Thus, implementation of Mitigation Measure 3.16-5 would be effective in reducing interior noise levels of new development under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives; however, no feasible mitigation measures are available to reduce impacts to a less-than-significant level. This impact would remain **significant and unavoidable**.

**Project Level (Phase 1) Impacts and Mitigation Measures**

**IMPACT  
3.16-7**

**Temporary Exposure to Construction-Generated Noise.** *Construction activities for development Phase 1 could temporarily exceed applicable standards at nearby noise-sensitive receptors.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.16-1 for further discussion of this impact.

With implementation of Mitigation Measure 3.16-1, construction would be limited to daytime hours, for which associated noise levels are considered exempt from the provisions of the City Noise Ordinance, and equipment would be properly maintained, sound barriers installed, and setbacks established, resulting in levels below the City’s noise standards. Therefore, implementation of this mitigation measure would reduce potentially significant impacts from temporary construction noise under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

**IMPACT  
3.16-8**

**Potential Exposure to Stationary-Source Noise Generated by On-site Land Uses.** *Implementation of development Phase 1 could result in potential exposure of sensitive receptors to noise levels from on-site stationary sources in excess of applicable standards.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.16-3 for further discussion of this impact.

Compliance with the City Noise Ordinance and implementation of additional mitigation measures for the control of stationary-source noise, such as those identified above in Mitigation Measure 3.16-2, would reduce stationary-source noise levels under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. However, stationary-source noise levels from activities on land uses over which the City has limited control could still result in noise levels at nearby sensitive receptors that exceed the City's maximum allowable noise standards. Therefore, this impact would remain **significant and unavoidable**.

**IMPACT  
3.16-9**

**Potential Exposure to Off-site Stationary-Source Noise.** *Implementation of development Phase 1 could result in potential exposure of proposed sensitive receptors to noise levels from off-site stationary sources in excess of applicable standards.*

Impacts would be the same under development Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.16-2 for further discussion of this impact.

Compliance with the City Noise Ordinance and implementation of any additional mitigation measures for the control of stationary-source noise, such as those identified above in Mitigation Measure 3.16-2, would reduce stationary-source noise impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. Implementation of Mitigation Measure 3.16-2 would reduce interior noise levels to a less-than-significant level. However, exterior noise levels could still exceed applicable land-use compatibility noise standards. No additional feasible mitigation measures are available to further reduce exterior noise levels; therefore, this impact remains **significant and unavoidable**.

**IMPACT  
3.16-10**

**Project-Generated Increases in Traffic Noise Levels on Area Roadways.** *Implementation of development Phase 1 would introduce new traffic to area roadways, resulting in an associated increase in traffic noise levels.*

PP

The increase in daily traffic volumes resulting from implementation of the Proposed Project Alternative would generate increased noise levels along nearby roadway segments. The FHWA Traffic Noise Prediction Model (FHWA 1988) was used to calculate traffic noise levels along affected roadways for baseline traffic conditions, with and without implementation of the Proposed Project Alternative (Table 3.16-11), based on the trip distribution estimates obtained from the traffic analysis prepared for this project (see Section 3.14, "Traffic and Transportation"). The project's contribution to the existing traffic noise levels along area roadways was determined by comparing the predicted noise levels with and without project-generated traffic.

Table 3.16-11 summarizes the CNEL/L<sub>dn</sub> at 50 feet from the centerline of the near travel lane of area roadways for baseline conditions, with and without buildout of development Phase 1. Table 3.16-11 also shows the net difference in roadside noise levels for the two scenarios analyzed. Modeled roadway noise levels assume no natural or artificial shielding between the roadway and the receptor. As shown, traffic generated by development Phase 1 would result in a noticeable increase in traffic noise (i.e., 3 dBA or greater) along White Rock Road between Sunrise Boulevard and Grant Line Road (3.14 dBA). However, developed land uses located along this

**Table 3.16-11  
Summary of Modeled Baseline (Year 2014) Traffic Noise Levels**

Roadway Segment	Between		Predicted Noise Level (dBA CNEL/L <sub>dn</sub> ) at 50 Feet from Near Travel Lane Centerline		
			Baseline	Baseline Plus	Difference
			Without Project	Phase 1	
SR 16	Excelsior Road	Eagles Nest Road	72.82	72.89	0.07
SR 16	Sunrise Boulevard	Grant Line Road	74.03	74.37	0.34
Kiefer Boulevard	Grant Line Road	North of SR 16	62.80	63.02	0.22
Mather Boulevard	Femoyer Street	Douglas Road	72.42	72.68	0.26
Douglas Road	Mather Boulevard	Sunrise Boulevard	74.59	75.47	0.88
International Drive	South White Rock Road	Zinfandel Drive	70.30	71.06	0.76
International Drive	Zinfandel Drive	Kilgore Road	68.43	69.76	1.33
White Rock Road	Zinfandel Drive	Sunrise Boulevard	71.78	73.92	2.14
White Rock Road	Sunrise Boulevard	Grant Line Road	71.13	74.27	3.14
Folsom Boulevard	Zinfandel Drive	Sunrise Boulevard	72.01	72.18	0.17
Folsom Boulevard	Sunrise Boulevard	Hazel Avenue	73.23	73.39	0.16
Mather Field Road	Folsom Boulevard	U.S. 50 WB ramps	73.25	73.31	0.06
Mather Field Road	U.S. 50 EB ramps	International Drive	74.25	74.34	0.09
Zinfandel Drive	Folsom Boulevard	U.S. 50 WB ramps	72.81	73.17	0.36
Zinfandel Drive	U.S. 50 EB ramps	White Rock Road	75.03	76.09	1.06
Zinfandel Drive	White Rock Road	International Drive	71.74	71.74	0.00
Sunrise Boulevard	Gold Country Boulevard	Coloma Road	77.03	77.53	0.50
Sunrise Boulevard	Coloma Road	U.S. 50 WB ramps	77.42	77.97	0.55
Sunrise Boulevard	U.S. 50 EB ramps	Folsom Boulevard	75.81	76.94	1.13
Sunrise Boulevard	Folsom Boulevard	White Rock Road	75.07	76.52	1.45
Sunrise Boulevard	White Rock Road	Douglas Road	75.75	77.49	1.74
Sunrise Boulevard	SR 16	Grant Line Road	71.77	72.98	1.21
Hazel Avenue	Winding Way	U.S. 50 WB ramps	76.2	76.37	0.17
Grant Line Road	White Rock Road	Douglas Road	71.48	71.77	0.29
Grant Line Road	Douglas Road	SR 16	70.50	70.56	0.06
Grant Line Road	SR 16	Sunrise Boulevard	69.84	69.84	0.00
U.S. 50	Mather Field Road	Zinfandel Drive	82.64	82.91	0.27
U.S. 50	Zinfandel Drive	Sunrise Boulevard	82.09	82.09	0.00
U.S. 50	Sunrise Boulevard	Hazel Avenue	81.75	81.96	0.21
U.S. 50	Hazel Avenue	Folsom Boulevard	81.19	81.31	0.12
Douglas Road	Sunrise Boulevard	Jaeger Road	74.22	75.15	0.93
Douglas Road	Americanos Boulevard	Grant Line Road	69.55	70.12	0.57
Sunrise Boulevard	Douglas Road	Kiefer Boulevard	72.92	74.38	1.46
Sunrise Boulevard	Kiefer Boulevard	SR 16	72.57	73.75	1.18
Excelsior Road	North of SR 16		68.42	68.98	0.56
SR 16	West of Excelsior Road		72.82	72.96	0.07

Notes: CNEL = community noise equivalent level; dBA = A-weighted decibels; EB = eastbound; FHWA = Federal Highway Administration; L<sub>dn</sub> = day-night average noise level; SR = State Route; U.S. 50 = U.S. Highway 50; WB = westbound

Traffic noise levels were modeled using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) based on traffic data obtained from the traffic analysis prepared for this project (see Section 3.14, Traffic and Transportation). Modeling assumes no natural or human-made shielding (e.g., vegetation, berms, walls, buildings).

Data provided by EDAW in 2005

roadway segment consist of industrial, office, and commercial land uses. No noise-sensitive land uses (such as schools or residential dwellings) are located along this roadway segment. In addition, implementation of development Phase 1 would not result in a noticeable (i.e., 3 dBA) increase in ambient noise levels along other nearby roadways. Consequently, implementation of development Phase 1 would not contribute to noticeable increases in ambient noise levels at noise-sensitive land uses that would exceed land-use compatibility noise criteria. (Cumulative traffic noise impacts are discussed later in this section.) This **direct** impact is considered **less than significant**. **No indirect** impacts would occur.

HD, IM,  
NF, NP

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for these alternatives. Refer to Impact 3.16-4 for further discussion of these impacts.

Mitigation Measures: No mitigation measures are required.

**IMPACT  
3.16-11**

**Compatibility of Proposed Land Uses with Projected Noise Levels.** *Under development Phase 1, noise levels could exceed the City's applicable land-use compatibility noise standards at proposed noise-sensitive land uses located close to airport, roadway, and mining noise sources.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.16-5 for further discussion of this impact.

Implementation of Mitigation Measure 3.16-5 would likely be effective in reducing interior noise levels of new development to less-than-significant levels under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives. However, exterior noise levels related to roadway traffic and mining activities would be anticipated to exceed applicable land-use compatibility noise standards. Because no feasible mitigation measures are available to reduce all exterior noise levels to be compatible with City noise standards, this impact would remain **significant and unavoidable**. The Mather noise contours are not triggering this conclusion. Impacts from mining activities and area roadways are unavoidable and attenuation measures are infeasible.

**IMPACT  
3.16-12**

**Potential Exposure to Single-Event Aircraft Noise Levels Exceeding Applicable Standards.** *Implementation of development Phase 1 could result in exposure of proposed sensitive receptors to single-event aircraft noise levels in excess of applicable standards.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.16-6 for further discussion of this impact.

For the reasons described above for Impact 3.16-6, implementation of Mitigation Measure 3.16-6 would be effective in reducing interior noise levels of new development under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives; however, no feasible mitigation measures are available to reduce impacts to a less-than-significant level. This impact would remain **significant and unavoidable**.

## **CUMULATIVE IMPACTS**

Project implementation would result in significant noise impacts associated with construction activities; noise generated by on-site land uses (residential and commercial uses, schools, and parks); and noise generated by existing sources such as nearby roadways, the Cordova Shooting Center, and Mather Airport. Noise impacts from construction activities and on-site land uses could be reduced to less-than-significant levels with implementation of Mitigation Measure 3.16-1; however, noise impacts from on-site land uses would remain significant and unavoidable with implementation of Mitigation Measure 3.16-2 because stationary-source noise levels from activities on land uses over which the City has limited control could still result in noise levels at nearby sensitive receptors that exceed the City's maximum allowable noise standards. Implementation of Mitigation Measures 3.16-3

through 3.16-6 would reduce potentially significant and significant interior-noise impacts, but exterior noise levels would remain significant and unavoidable because no feasible mitigation is available to reduce the impact.

Noise is a localized occurrence and attenuates rapidly with distance. Therefore, only future cumulative development projects in the direct vicinity of the project site would have the potential to add to anticipated project-generated stationary-source noise, thus resulting in cumulative noise impacts. Proposed development within the Sunrise Douglas Specific Plan area and the Grantline West planning area would generate types of noise similar to those of the Rio del Oro project, and like the project, development within both planning areas would have the potential to affect nearby residences and other sensitive receptors.

Stationary-source noise associated with the Rio del Oro project and the related projects could potentially result in exceedance of the City's noise regulations at sensitive receptors. The noise from any stationary noise sources associated with the related projects could be controlled at the source (by means of noise walls, enclosures, site planning, and so on), but there is no guarantee that all the related projects would include such noise controls as part of their proposals. Therefore, significant cumulative noise impacts associated with stationary noise sources could occur. Projects along Douglas Road within the Sunrise Douglas Specific Plan area, and proposed development in the Grantline West planning area, are close enough to the Rio del Oro project site to have an additive effect from stationary noise sources. As mentioned above, implementation of Mitigation Measure 3.16-2 would reduce project-generated stationary-source noise impacts, but not to a less-than-significant level; thus, project implementation would result in a cumulatively considerable incremental contribution to significant cumulative stationary-source noise impacts.

The City's noise regulations limit construction activities to daytime hours. However, for the Rio del Oro project, it was determined that adherence to these noise regulations alone would not be sufficient to avoid significant construction-noise impacts on sensitive receptors (i.e., schools, convalescent care and daycare facilities, and places of worship). It is similarly anticipated that compliance with these regulations alone would not avoid significant construction-noise impacts associated with the related projects. Therefore, significant cumulative noise impacts associated with construction activities could occur. Projects along Douglas Road within the Sunrise Douglas Specific Plan area and proposed development in the Grantline West planning area are close enough to the Rio del Oro project site to have an additive effect from construction-noise sources. However, implementation of Mitigation Measure 3.16-1 would reduce project-related construction-noise impacts to a less-than-significant level. Coupled with the fact that noise diminishes with distance, project construction would not result in a cumulatively considerable incremental contribution to any significant cumulative noise impacts.

Construction noise and stationary-source noise can be controlled on-site at the point of origin; however, traffic noise may extend beyond a project site along existing and proposed off-site and on-site roadways, resulting in significant traffic noise impacts on sensitive uses along these roadways. Because full buildout of the Rio del Oro project would result in a perceptible increase in traffic noise on several roadways, the project would incrementally contribute to a cumulative impact. Furthermore, the combined cumulative increase in traffic on area roadways would extend the 60-dBA noise contour distances for these roadway segments, causing additional proposed sensitive receptors to fall within this contour. Thus, the traffic noise impacts from Rio del Oro and the related projects, taken together, are considered cumulatively significant. Construction of sound walls and other noise-attenuating features (e.g., berms) throughout the area would require a citywide program and may not be feasible to implement. Because it is considered infeasible to sufficiently reduce noise at every existing and proposed sensitive receptor that would be affected, this cumulative traffic noise impact is considered significant and unavoidable. The project's incremental contribution to the significant cumulative impact is itself considered cumulatively considerable, and thus significant and unavoidable.

Noise impacts related to airport land uses are limited to a specific distance around the individual airport, depending on flight patterns. Because these impacts are localized, they would not result in cumulative, additive effects.

### **3.16.4 RESIDUAL SIGNIFICANT IMPACTS**

Residual significant exterior noise impacts would remain from the increase in project-generated traffic; the increase in cumulative traffic noise on area roadways as a result of full project buildout; and exposure of sensitive project-generated land uses to single-event aircraft noise generated by Mather Airport and concurrent mining activities. Because no feasible mitigation is available to reduce these impacts to a less-than-significant level, the impacts would remain significant and unavoidable. Additionally, noise from activities on land or from land uses over which the City has limited control could still result in stationary-source noise levels at nearby sensitive receptors that exceed the City's maximum allowable noise standards. Therefore, this impact would remain significant and unavoidable.

## 4 OTHER STATUTORY REQUIREMENTS

### 4.1 CUMULATIVE IMPACT METHODOLOGY, CONTRIBUTING PROJECTS, LIST OF RELATED PROJECTS, AND CONTEXT

#### 4.1.1 INTRODUCTION

This draft environmental impact report/draft environmental impact statement (DEIR/DEIS) provides an analysis of overall cumulative impacts of the Rio del Oro Specific Plan Project taken together with other past, present, and probable future projects producing related impacts, as required by the California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) (14 California Code of Regulations [CCR] Section 15130) and National Environmental Policy Act (NEPA) implementing regulations (40 Code of Federal Regulations [CFR] 1508.7). The goal of such an exercise 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 Rio del Oro 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)] and *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 120.) 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 DEIR/DEIS 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 Council on Environmental Quality (CEQ) regulations implementing provisions of NEPA define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative effects can result from individually minor, but collectively significant, actions over time and differ from indirect impacts (40 CFR 1508.8). They are caused by the incremental increase in total environmental effects when the evaluated project is added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can thus arise from causes that are totally unrelated to the project being evaluated, and the analysis of cumulative impacts looks at the life cycle of the effects, not the project at issue.

## 4.1.2 PROJECTS CONTRIBUTING TO POTENTIAL CUMULATIVE IMPACTS

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”). For this DEIR/DEIS, the list approach and the plan approach have been combined to generate the most reliable future projections possible. A list approach is used to define the local project environment and includes projects within the corporate boundaries of the City of Rancho Cordova (City). Because the project is large and would directly influence and be influenced by regional development activities, the plan approach is also used, to allow a cumulative analysis on this regional scale. Projects and plans included in these two approaches are described below.

## 4.1.3 CUMULATIVE CONTEXT

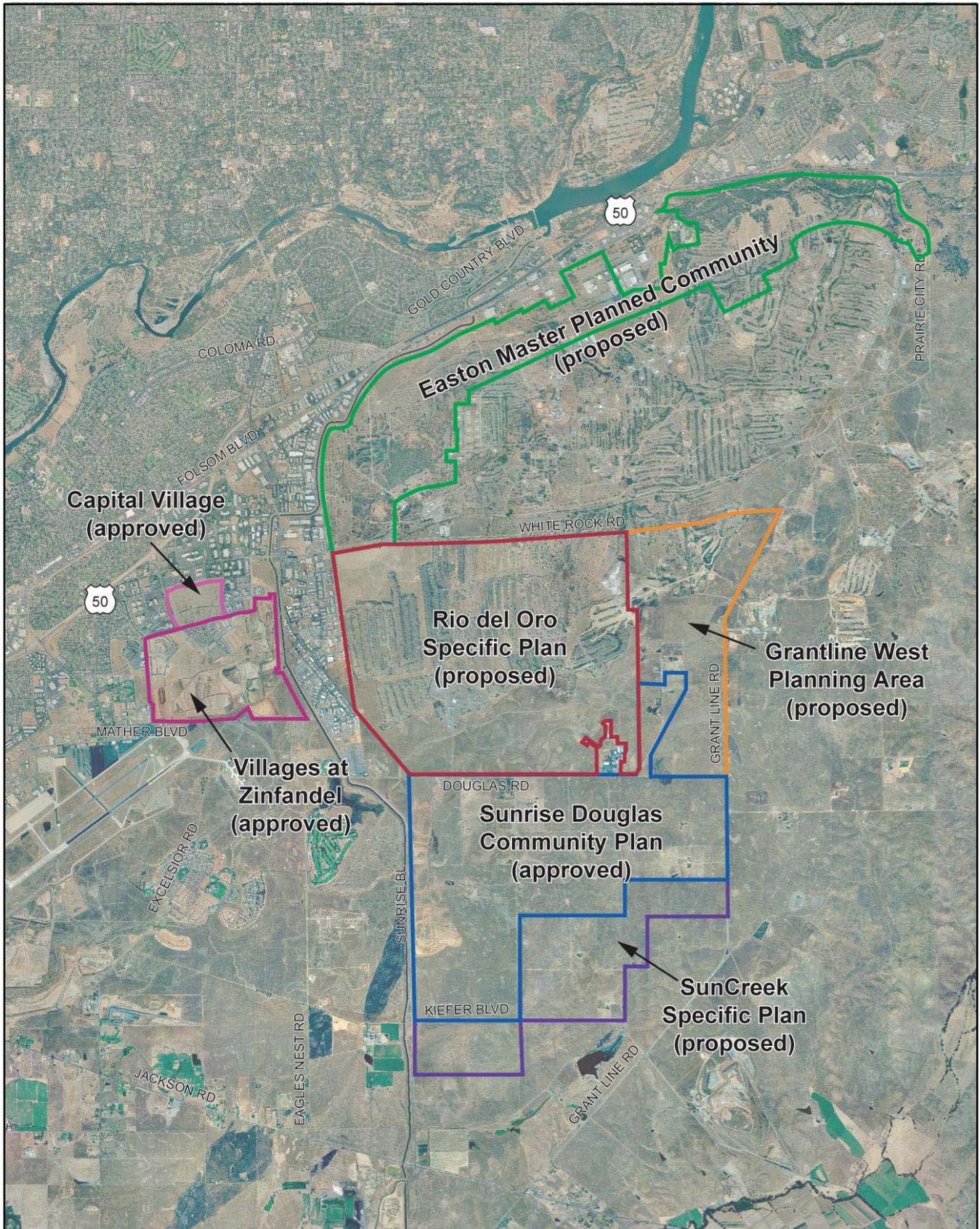
Growth in Sacramento County is occurring and is projected to occur primarily in the cities of Elk Grove and Rancho Cordova and in the community of Natomas, which are the only remaining areas of the county within the Urban Services Boundary (USB) where land is available (for additional detail, see Section 2.8, “Off-Site Alternatives,” in Chapter 2 of this document). Sacramento County as a whole has experienced fairly rapid growth and development since 1990. Employment increased from 527,843 jobs in 1990 to 587,086 in 2000. The Sacramento Area Council of Governments (SACOG) projected that the county would experience an increase of 13,000 additional jobs between 2000 and 2005. Annual job growth is expected to accelerate between 2005 and 2015 to more than 4,000 jobs per year and then decline to about 1,400 jobs per year by 2025. Housing is currently in short supply countywide; however, SACOG projects that the jobs/housing balance will be relatively equal by the year 2025, taking into account the future development projected for Elk Grove, Rancho Cordova, and Natomas.

Rancho Cordova is located within the eastern portion of Sacramento County, covering approximately 33.6 square miles (almost 3.3% of the land area for the entire county). The planning area for the *Rancho Cordova General Plan* (City General Plan) consists of the existing incorporated City and a larger study area consisting of the incorporated City and the unincorporated area extending east to Prairie City Road, south to Jackson Highway (State Route [SR] 16), west to Watt Avenue, and north to the American River. To the south of the planning area, the area south of SR 16 is primarily agricultural land and industrial land uses, while the other parts of the planning area are bounded by residential, commercial, and open-space uses. The data from the 2000 U.S. Census indicated that the population of Rancho Cordova was 48,731 in 1990. The City has since conducted an analysis to calibrate the available data to the city limits using the 2000 census block groups, blocks, and tracts in relation to the city-limit boundary. This analysis determined that the population within the city limits was 53,065 in 2000.

Rapid growth is projected for the newly incorporated City. Exhibit 4-1 shows the location of approved and proposed community development in Rancho Cordova, with full buildout of the city expected by the year 2030. Adding projected development to current residential and commercial development in Rancho Cordova would give an estimate of 310,568 residents, 126,241 dwelling units, and 215,609 jobs at full buildout of the city in 2030 in the City and its Planning Areas (City of Rancho Cordova 2006). As part of its general plan process, the City has addressed expected environmental changes such as air quality degradation, traffic congestion, loss of plant or animal habitat, loss of farmland, provision of adequate public services, and other environmental changes related to urban development.

## 4.1.4 LIST OF RELATED PROJECTS

The list of past, present, and probable future projects used for this cumulative analysis is restricted to those projects that have occurred or are planned to occur in Rancho Cordova or nearby areas of Sacramento County. Future development planned in Folsom south of U.S. Highway 50 (U.S. 50) is too speculative, and therefore is not



Source: City of Rancho Cordova 2005, Aerial Image: Sacramento County 2002

## Proposed and Approved Development in the Project Vicinity

EXHIBIT 4-1



identified in the list of related projects. However, this area is covered by the regional approach described in Section 4.1.5 below. For the purposes of this discussion, these projects may have a cumulative effect on the resources in the project study area and will often be referred to as the “related projects.” These related projects are identified in Exhibit 4-2 and Table 4-1 below.

The “related projects” provided by the City and the County of Sacramento (County) include both approved and proposed projects; however, the calculations are approximate because the City does not have exact numbers for all projects. Approved projects would add approximately 1,768.3 acres of residential use and 119.8 acres of commercial/office use on a total of approximately 2,187.9 acres. Proposed projects would add approximately 7,018.4 acres of residential use and 566.3 acres of commercial/office use on a total of approximately 11,174.8 acres. In total, approved and proposed projects would be developed on approximately 13,362.7 acres of land.

#### **4.1.5 REGIONAL PLANNING ENVIRONMENT**

Because the project is large and would directly influence and be influenced by regional development activities, the plan approach was used to evaluate cumulative impacts on a regional scale. The regional cumulative analysis area covers the incorporated and unincorporated areas of Sacramento County. The analysis included an evaluation of the SACOG Sacramento Region Blueprint and Preferred Blueprint Scenario; the *County of Sacramento General Plan* (County General Plan), adopted in 1993 and as amended; and the City General Plan. A summary of the cumulative planning environment in Sacramento County used for the regional cumulative impact analysis is provided below.

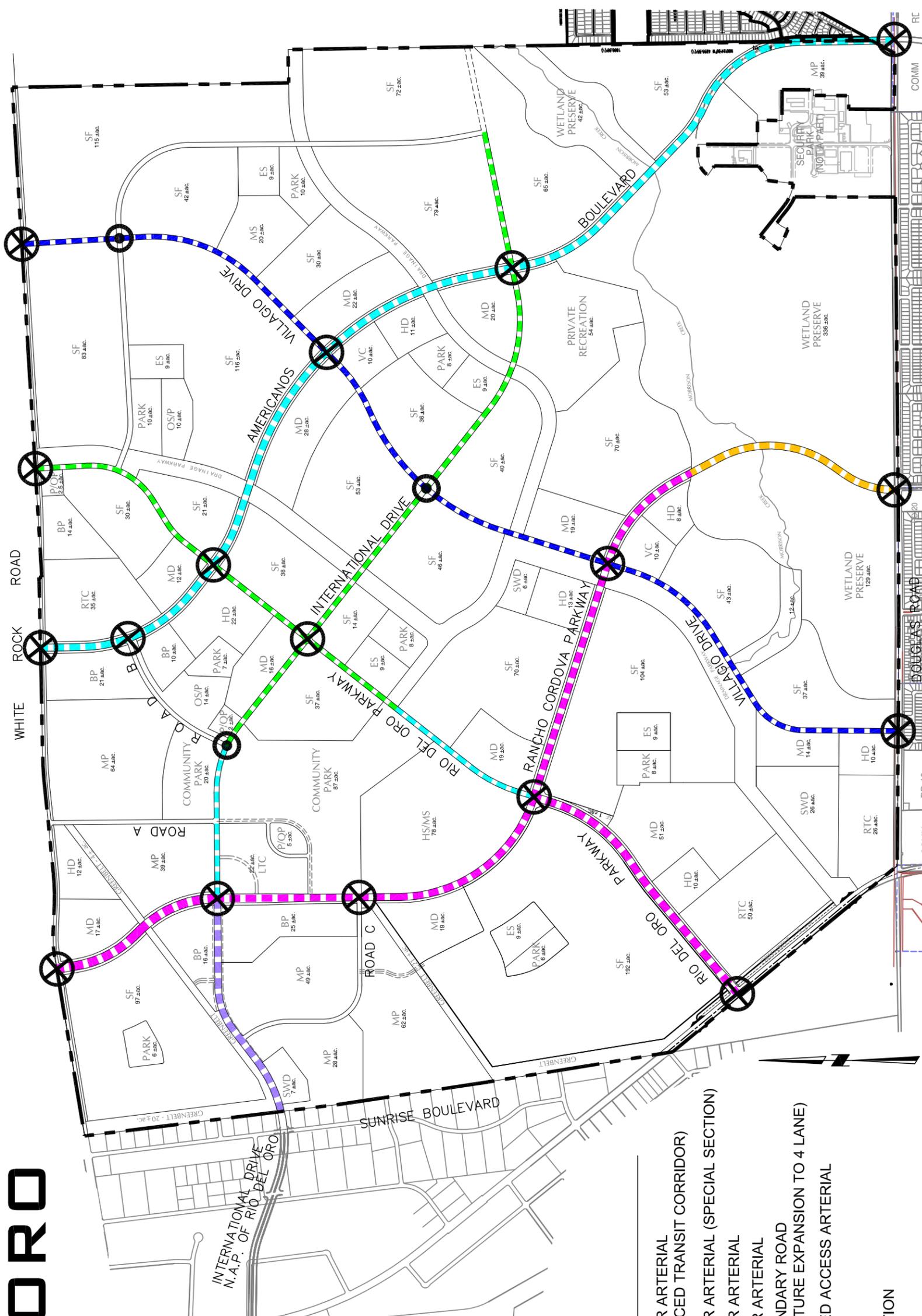
##### **SACRAMENTO AREA COUNCIL OF GOVERNMENTS SACRAMENTO REGION BLUEPRINT**

The SACOG Sacramento Region Blueprint depicts a way for the region to grow through the year 2050 as the current population of 2 million increases to more than 3.8 million, the number of jobs increases from 921,000 to 1.9 million, and the amount of housing increases from 713,000 to 1.5 million units. In December 2004 the SACOG Board of Directors adopted the Preferred Blueprint Scenario, a vision for growth that promotes compact, mixed-use development and more transit choices as an alternative to low-density development. The Preferred Blueprint Scenario predicts that undertaking a realistic long-term planning process will result in long-term environmental benefits and avoidance of impacts; these benefits are intended to minimize the extent of the inevitable physical expansion of the overall regional urban area. As a result, natural resources that might be lost under a traditional approach would be protected because less land would be required for urban uses and less agricultural land would be converted. In addition, the Preferred Blueprint Scenario predicts less time per person devoted to travel, fewer car trips, and fewer miles traveled to work and local businesses. The reduction in traffic compared with what would occur under traditional patterns would lead to long-term reductions in air quality emissions in the region by reducing the amounts of vehicular carbon monoxide and particulates that would otherwise be emitted under traditional, lower density development patterns.

Although it is only advisory, the Blueprint is the most authoritative policy guidance in the Sacramento region for long-term regional land use and transportation planning. As stated in the City General Plan, land uses in Rancho Cordova generally reflect the types and intensity of land uses shown in the Preferred Blueprint Scenario, which envisions relatively higher overall residential densities than currently in place (Exhibit 3.1-2). This land use scenario does not establish “buildout targets” but anticipates the addition of approximately 54,000–60,000 new households and 48,000 new jobs in the current Rancho Cordova city limits (based on assumptions used in the Blueprint process), with possible additional growth in the planning area.

CIRCULATION PLAN

# RIO DEL ORO



## LEGEND

SYMBOL	R.O.W.	# OF LANES
	98'	6 LANE MAJOR ARTERIAL (WITH ENHANCED TRANSIT CORRIDOR)
	108'	6 LANE MAJOR ARTERIAL (SPECIAL SECTION)
	98'	6 LANE MAJOR ARTERIAL
	76'	4 LANE MINOR ARTERIAL
	76'	2 LANE SECONDARY ROAD (ROW FOR FUTURE EXPANSION TO 4 LANE)
	57'	2 LANE LIMITED ACCESS ARTERIAL



TRAFFIC SIGNAL LOCATION



POTENTIAL ROUND ABOUT LOCATION

<b>Table 4-1 Related Projects in the City of Rancho Cordova and Nearby Sacramento County</b>								
Location No.	Project Name	Description	Status		Total Acreage	Units	Proposed/Existing Use	
			City	USACE			Residential Acreage	Commercial/Office Acreage
<b>Approved Projects</b>								
1	SunRidge Park (Phase 1) (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Residential development	Approved	Under review	244.2	801	244.2	NA
2	Anatolia I (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Residential development	Approved	Permitted	229.8	949	229.8	NA
3	Anatolia II (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Residential development	Approved	Permitted	298	886	298	NA
4	Anatolia III (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Residential development	Approved	Permitted	208	879	208	NA
5	Anatolia IV (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Residential development	Approved	Permitted	25	134	25	NA
6	Mather East (Raley's Center) (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Commercial and residential development	Approved	Under review	44.5	NA	13.3	18.8
7	Sunrise Douglas Shopping Center (Safeway Center) (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Commercial development	Approved	Under review	51	NA	NA	51
8	Villages at Zinfandel—Stone Creek	Residential development	Approved	Under review	17.1	288	17.08	NA
9	Villages at Zinfandel	Commercial and residential development	Approved	Under review	823	719	527	18
10	North Douglas (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Residential development	Approved	Permitted	130.3	680	120.9	NA

**Table 4-1  
Related Projects in the City of Rancho Cordova and Nearby Sacramento County**

Location No.	Project Name	Description	Status		Total Acreage	Units	Proposed/Existing Use	
			City	USACE			Residential Acreage	Commercial/Office Acreage
12	SunCreek Specific Plan	Mixed-use development	Proposed	Under review	1,253	5,043–5,602 (unit range)	697	22
13	The Preserve at SunRidge (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Commercial and residential development	Approved	Under review	530	2,703	303.5	21.6
14	SunRidge East (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Commercial and residential development	Proposed	Under review	609.4	3,042	393.6	25.7
15	Montelena (part of the Sunrise Douglas Community Plan/SunRidge Specific Plan)	Residential development	Proposed	Permitted	251.9	869	158.3	NA
16	Easton Master Planned Community	Residential development	SPA Development	Under review	3,000	10,000	1,850	
17	Westborough (part of the Easton Master Planned Community)	Residential development	Land use plan in process	Under review	1,650	5,100	820	
18	Glenborough (part of the Easton Master Planned Community)	Residential development	Tentative map submitted	Under review	1,200	3,390	524	
19	Easton Place (part of the Easton Master Planned Community)	Residential development	Tentative map submitted	Under review	183	1,500	68	213
20	Mine Shaft Rezone	Rezone and conditional use permit	Proposed	Under review	NA	NA		
21	Bradshaw Landing	360,000-square-foot theater and retail commercial development	Proposed	Under review	40.5	NA	NA	NA

**Table 4-1  
Related Projects in the City of Rancho Cordova and Nearby Sacramento County**

Location No.	Project Name	Description	Status		Total Acreage	Units	Proposed/Existing Use	
			City	USACE			Residential Acreage	Commercial/Office Acreage
22	Legion of Christ Catholic College	Full-service residential campus by 2008 for 7,000 students and nearly 600 facility members	Proposed	Under review	300	NA	NA	NA
23	Mather Airport Master Plan	Review of Draft Final Master Plan by DERA pursuant to CEQA. The goal of the Master Plan is to guide development over the next 20 years and to identify the facilities necessary to meet near- and long- term aviation demand.	Under DERA review	Under review				
Total Proposed Projects					11,174.8	31,647– 32,206	4,814	282
Grand Total <sup>1</sup>					13,362.7	37,819– 38,378	6,582	402
<p>Notes: City = City of Rancho Cordova; County = County of Sacramento; DERA = County of Sacramento Department of Environmental Review and Assessment; NA = not applicable; SPA = Specific Plan Area; USACE = U.S. Army Corps of Engineers</p> <p><sup>1</sup> Grand total includes total proposed projects added to total City approved projects.</p> <p>Source: Data provided by City of Rancho Cordova and County of Sacramento in 2005 and U.S. Army Corps of Engineers in 2006</p>								

## COUNTY OF SACRAMENTO GENERAL PLAN

Between the year 2000 and January 1, 2002, Sacramento County's population increased to nearly 1.28 million, an increase of 5% since the 2000 census. The population of the unincorporated county decreased by nearly 9% between 2000 and 2002, to 602,271, because of the incorporation of Elk Grove. Residents within the newly incorporated City of Rancho Cordova accounted for more than 60,000 of those residing in the county's former unincorporated area. The cities of Rancho Cordova and Elk Grove contain areas supporting a significant number of future jobs and a significant level of housing growth. The incorporation of Rancho Cordova combined with the future growth of the city of Elk Grove is anticipated to remove much of the population growth potential in the unincorporated county. SACOG projects that by 2050 there will be 1.7 million more people in the Sacramento region than there were in 2000. In addition, as population grows to more than 3.8 million residents, the number of homes is projected to more than double from 713,000 to more than 1.5 million. SACOG also projects Sacramento County's population growth to be in the single-digit range for each 5-year period between 2000 and 2025. Population growth per 5-year period is anticipated to decline gradually, from nearly 9% between 2000 and 2005 to about 3% between 2020 and 2025. SACOG projects similar, modest population growth in the unincorporated county. However, much of the projected population growth will occur in developing areas of the county that are now part of the new cities of Elk Grove and Rancho Cordova.

## RANCHO CORDOVA GENERAL PLAN

Land north of the project site is also owned by Aerojet General Corporation (Aerojet) and is currently used for aerospace testing facilities and associated buffer lands. Aerojet land approximately 1 mile north of the project site and adjacent to U.S. 50 has been previously designated for urban development as the Easton Master Planned Community (Exhibit 4-1) under various adopted plans and zoning ordinances, including the Land Use Element of the City General Plan. The City General Plan identifies planned development northwest (Westborough), north (Easton Place), and northeast (Glenborough) of the project site (see Exhibit 3.1-1 in Section 3.1, "Land Use"). These developments within the Easton Master Planned Community will include residential and commercial land uses, regional town centers, village centers, open spaces, and parks. Full buildout of the Easton Master Planned Community is expected over the next 25 years.

Land south of the project site is projected for development as part of the Sunrise Douglas Community Plan, which includes the SunRidge and SunCreek Specific Plan areas (Exhibit 4-1). The communities within these planning areas have been previously designated for urban development under various adopted plans and zoning ordinances, including the Land Use Element of the City General Plan. Future development will include residential and commercial land uses, regional town centers, village centers, open spaces, and parks. Full buildout of the Sunrise Douglas Community Plan is expected over the next 25 years.

Land on the west side of Sunrise Boulevard is primarily developed with the exception of the last phases of the Villages of Zinfandel (Elliott Homes), which are projected for single-family housing, and the Capital Village development (Beazer Homes), designed to be a pedestrian-friendly community that combines homes, retail stores, a mixed-use town center, parks, bike trails, and a civic amphitheater with a village green (Exhibit 4-1). Farther west, the *Mather Airport Master Plan* will guide redevelopment of the former Mather Air Force Base (Mather Field).

Land on the east side of the project site is projected for development as part of the Grantline West Planning Area (Exhibit 4-1). The area would contain medium- and high-density residential housing along with development of retail and professional office development, pedestrian trails, and bicycle paths. The North Douglas development, which is part of the Sunrise Douglas Community Plan, would be developed to the east of the southeastern project site boundary (Exhibit 4-1), and would contain primarily residential housing.

## 4.1.6 CUMULATIVE IMPACT ANALYSIS

A detailed analysis of cumulative impacts is provided at the end of each technical section in Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures.” A summary of impacts for which the project’s contribution would be cumulatively considerable is provided below.

### UTILITIES AND SERVICE SYSTEMS

Project implementation could hasten the occurrence of potentially significant or significant related impacts that could occur from construction of permanent water supply and conveyance facilities, permanent wastewater conveyance facilities, and permanent wastewater treatment facilities. These impacts are discussed in the previously certified *Zone 40 Water Supply Master Plan Environmental Impact Report* (SCWA 2003), the *CSD-1 Sewerage Facilities Expansion Master Plan Environmental Impact Report* (County of Sacramento 2004b), the *Sacramento Regional County Sanitation District Interceptor Master Plan 2000 Program Environmental Impact Report* (County of Sacramento 2003), and the *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan Final Environmental Impact Report* (County of Sacramento 2004c). Because these facilities are needed to serve the project and other regional development, the project’s contribution to impacts associated with construction of permanent water supply and wastewater conveyance facilities, and permanent wastewater treatment facilities, would be cumulatively considerable.

### PUBLIC SERVICES

The project, when considered with other present and future planned development in the area, could cumulatively contribute to a shortage of public services and facilities, which could lead to significant construction- and operation-related environmental effects. Conducting separate environmental analyses for development of these public services as required by CEQA would not necessarily guarantee that significant environmental effects would not occur. Thus, project implementation could result in a cumulatively considerable contribution to impacts associated with construction of additional public services necessary to serve both the project and other regional development.

### CULTURAL RESOURCES

Project implementation would result in the destruction of historic buildings, sites, and structures determined potentially eligible for listing in the National Register of Historic Places and the California Register of Historical Resources. Although the sites would be properly documented and recorded, the loss of such structures is considered significant and unavoidable under CEQA. Thus, the project would incrementally contribute to significant cumulative impacts on important cultural resources in the project region.

### BIOLOGICAL RESOURCES

The project would contribute to cumulative historic loss of Sacramento-area vernal pools that are located within the Laguna geologic formation. In addition to the direct loss of habitat, the project, in conjunction with existing and planned development in the area, would result in a cumulatively considerable contribution to fragmentation of the remaining vernal pools. Project implementation would result in the loss of nearly 1,500 acres of annual grassland habitat that serves as foraging habitat for raptors, including Swainson’s hawk. The loss of this habitat would contribute significantly to the cumulative regional loss of this biological resource as a result of other development projects in the region. Finally, removal of large expanses (867 acres) of woodland and riparian habitat from the project site would contribute significantly to the cumulative regional loss of these habitat types, which provide important functions and values to both common and special-status plant and animal species; woodland and riparian habitat within the region is rapidly declining, and a large portion has already been lost to development and other land use modifications.

## **VISUAL RESOURCES**

Project development would change 3,800 acres of rural, undeveloped land to urban land uses. With the development of other large planned projects in the vicinity, much of the remaining open space within Rancho Cordova is expected to be converted to other land uses. When considered along with past urban development and planned future development proposed in the city, the surrounding communities, and the county as a whole, the project's contribution to degradation of visual character would be cumulatively considerable.

## **TRAFFIC**

Buildout of the project, in conjunction with other planned, proposed, and approved projects in the vicinity, would result in cumulatively considerable increases to peak-hour and daily traffic volumes. These traffic volume increases would result in unacceptable levels of service at various roadway segments, intersections, and freeway ramps in the study area as detailed in Impact 3.14-4 and Tables 3.14-13, 3.14-14, and 3.14-15 in Section 3.14, "Traffic and Transportation."

## **AIR QUALITY**

Project-related long-term operational emissions of reactive organic gases (ROGs), oxides of nitrogen (NO<sub>x</sub>), and particulate matter less than or equal to 10 microns in diameter (PM<sub>10</sub>), when combined with emissions from other reasonably foreseeable future projects in the Sacramento Valley Air Basin as a whole, would contribute to long-term increases in emissions that would exacerbate existing and projected nonattainment conditions. Thus, the project's contribution to regional air quality violations would be cumulatively considerable.

## **NOISE**

Project buildout would result in a perceptible increase in traffic noise on several area roadways that could adversely affect sensitive receptors. The combined cumulative increase in traffic on several area roadways from buildout of the project and other related projects in the vicinity (e.g., the Sunrise Douglas Community Plan area and the Grantline West planning area) would extend the distances of the 60 A-weighted decibel (dbA) noise contours for these roadway segments, resulting in additional sensitive receptors that could be adversely affected by traffic noise. Thus, the project's contribution to traffic noise would be cumulatively considerable.

## **4.2 GROWTH-INDUCING IMPACTS**

### **4.2.1 INTRODUCTION**

According to the State CEQA Guidelines (CCR Section 15126.2[d]), an EIR must discuss the growth-inducing impacts of the proposed project. Specifically, CEQA states that the EIR shall:

*Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- ▶ substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- ▶ a construction effort with substantial short-term employment opportunities that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- ▶ removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect, but it may foreseeably lead to environmental effects. These environmental effects may include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, or conversion of agricultural and open-space land to urban uses.

## **4.2.2 SUMMARY OF GROWTH PLANNED IN THE RANCHO CORDOVA GENERAL PLAN**

The City General Plan reflects an approach that combines specific land use designations in some areas of Rancho Cordova and more general descriptions of land uses in areas planned for future growth—the “Planning Areas” (Exhibit 3.1-2 in Section 3.1, “Land Use”), which have been incorporated as part of the City General Plan. These Planning Areas are described in general, but have not yet been specifically mapped with land use designations. Detailed plans (e.g., specific plans or similar planning tools) will be required for implementation of the Planning Areas. For the Rio del Oro project, detailed land use descriptions have been developed as part of the Rio del Oro Specific Plan and have been incorporated into the City General Plan.

The City General Plan considers overall development of Rancho Cordova, including the area covered by the Rio del Oro Specific Plan. The City’s General Plan EIR provides an additional analysis of growth-inducing impacts.

## **4.2.3 GROWTH-INDUCING IMPACTS OF THE PROJECT**

### **DENSITY OF DEVELOPMENT**

The project site is located within the city limits of Rancho Cordova; it is identified as the “Rio del Oro Planning Area” in the Land Use Element of the City General Plan. The City General Plan identifies the Rio del Oro Planning Area primarily as a mix of low-, medium-, and high-density residential units; commercial; commercial mixed use; shopping facilities; office and light-industrial uses; and open spaces. The project proposes a mix of land uses and densities compatible with those proposed in the City General Plan.

Depending on the alternative selected, project implementation could result in conflicts between the project and the SACOG Sacramento Region Preferred Blueprint Scenario. The Blueprint envisions a higher density of development on the project site than proposed under the Impact Minimization Alternative or the No Federal Action Alternative. Although lower density development on a particular property may reduce the levels of impacts occurring on or emanating from the property, low densities can be considered an inefficient use of finite land resources. In areas with growing populations, low-density development can push market demand for development outward toward other areas on the urban periphery, ultimately resulting in a greater overall loss of habitat, open space, and farmland. In the long term, these alternatives would be growth inducing and could result in greater expansion of the overall regional urban areas.

The High Density Alternative was designed to embrace the concept of Smart Growth, consistent with the SACOG Blueprint. Under Smart Growth principles, areas that are planned for development are developed at higher densities. These higher densities may result in greater on-site impacts on biological, cultural, open-space, and agricultural resources, but the overall area of disturbance is reduced because development is concentrated in

particular locations. Sacramento County is experiencing demographic pressure that reflects an increasing statewide population and intrastate migration from the San Francisco Bay Area, and the newly incorporated City is interested in furthering its goals and objectives of providing a mix of affordable housing and new jobs to its residents. Smart Growth principles suggest that developing the project site with a higher density use while avoiding wetland areas would focus market demand for development into an area near existing development, infrastructure, and services. Thus, the High Density Alternative would be growth-inducing, but it would feasibly attain most of the basic objectives of the project while mitigating one or more significant project effects.

## **ROADWAY IMPROVEMENTS**

Roadways providing access to the project site and throughout the project area would consist of improved roads along existing roadway alignments in the project vicinity, as well as new roads within the project site itself. The Proposed Project Alternative includes the development of an estimated 183 acres of major roadways within the project site. The major roads proposed for improvement in the project vicinity are Sunrise Boulevard, White Rock Road, Douglas Road, and Grant Line Road, which would serve the project and provide access through the project site to adjacent properties, consistent with the City General Plan.

In 2005, subsequent to the initiation of the environmental review of this project in 2004, SACOG adopted a new Metropolitan Transportation Plan (MTP). Although the region has made significant progress in reducing ozone, a problem has arisen with regard to another requirement set forth in the federal Clean Air Act. The region's transportation plan must conform and thus show that it does not harm the region's chances of attaining the ozone standard. The State Implementation Plan (SIP) is tied to a "motor vehicle emissions budget"; transportation planners must ensure that emissions anticipated from plans and improvement programs remain within this budget. The region is not required to update the SIP before the ozone (8-hour) plans are due in 2006. However, since a conformity lapse began on October 4, 2004, an expedited process to prepare a plan is under way (SMAQMD 2005). Because of the region's lapse in air quality conformity (associated with attainment efforts for federal Clean Air Act standards for ozone), the new MTP 2025 no longer contains regional transportation projects. Based on consultation with SACOG and the Sacramento Metropolitan Air Quality Management District, this issue will be resolved after the approval of the *Rate-of-Progress State Implementation Plan for Air Quality for the Sacramento Air Basin* in early 2006 and the adoption of a new MTP 2025 containing the regional transportation projects previously identified in the MTP 2025.

Given these conditions, the regional and local improvements identified in the 2004 edition of the MTP 2025 are considered appropriate. The following regional roadway network and transit improvements are included: Alta-Sunrise Interchange, Grant Line Road Extension, Zinfandel Drive Extension, Douglas Road Extension, Eagles Nest Road Extension, and International Drive Extension. The project applicant(s) are considering various additional options to address traffic flow on the surrounding roadways in the project study area, including widening portions of White Rock Road, Douglas Road, Sunrise Boulevard, and Grant Line Road. These improvements, which would also serve the project site, were identified as necessary to serve existing traffic and future development that is already approved by the City or currently under way. Roadway improvements are considered growth-inducing because they would serve the project, would provide access through the project site to adjacent properties, and would provide enhanced access to currently undeveloped areas planned for future development by the City General Plan.

## **UTILITIES**

No public storm drain facilities currently serve the project site. The development effort would require that drainage watercourses be provided to effectively drain the site, control flooding, and provide recreation and water quality benefits. Drainage features such as parkways and detention basins would be integrated into the ultimate project buildout. A network of conveyance pipes, inlets, manholes, and regulating structures would deliver runoff to the aforementioned system components. Construction of the stormwater conveyance facilities serving the project site would be sized to include existing flows from the Aerojet land north of White Rock Road, and

existing flows from the land located east of the project site (south of White Rock Road and west of Grant Line Road), because of all of this land is within the same watershed. However, the new drainage facilities would not be sized or intended to serve any new development on these lands outside the project site, and therefore would not be growth inducing.

The Rio del Oro project site is located in central Sacramento County within the service area of Sacramento County Water Agency's (SCWA's) Zone 40. SCWA Zone 40 is the wholesale water purveyor that would provide water to the retail customers SCWA Zone 41 and the California-American Water Company, a privately owned retail purveyor. For purposes of sizing transmission/distribution facilities, the total average-day demand for the Rio del Oro project is estimated to be 8,888 acre-feet per year (AFY) for the Proposed Project Alternative; 9,245 AFY for the High Density Alternative; 7,370 AFY for the Impact Minimization Alternative; and 8,118 AFY for the No Federal Action Alternative. SCWA has planned for 1,500 AFY of water supplies through the Zone 40 Water Supply Master Plan (WSMP) for these lands. These water supplies would be available when the Vineyard Water Treatment Plant (WTP) is constructed (estimated at 2011). The Eastern County Replacement Water Supply Project would provide water to serve the water demand of the project above and beyond the 1,500-AFY water demand that was planned for in the Zone 40 WSMP, which would be conveyed through the new Vineyard WTP and facilities. Construction of these facilities would also occur without development of the project; the Vineyard WTP, the 42-inch transmission main, and the water tank are required to serve regional development, and they would be needed whether or not the project is developed. Because there is a relationship between the project and the need for these water facilities, project approval may hasten the occurrence of the related impacts associated with the future construction of water supply facilities needed to serve the project and other regional development. The Vineyard WTP, transmission main, and water tank would provide water services in areas where public water services currently do not exist and would support future planned growth anticipated by the City in the *Zone 40 Water Supply Master Plan* (February 2005). Therefore, these water facilities and infrastructure would be growth inducing.

The only existing public sewer facilities in the vicinity of the project site are small 6- to 8-inch sewer laterals adjacent to the western site boundary. Project implementation would result in increased generation of wastewater and construction of interceptor facilities. The Aerojet and Laguna Creek Interceptors, as designated in the *SRCSD Interceptor System Master Plan 2000*, would be constructed by the Sacramento Regional County Sanitation District (SRCSD) and would serve the project site. The trunk and interceptor lines are required to serve regional development, and they would be required whether or not the project is developed. Because there is a relationship between the project and the need for these sewer lines, project approval may hasten the occurrence of the related impacts associated with the future construction of water supply facilities needed to serve the project and other regional development. Construction of interceptor facilities and infrastructure required to serve the project would result in capacity to serve other planned regional development, and therefore would be growth inducing.

Flow to the Sacramento Regional Wastewater Treatment Plant (SRWTP) would increase over time as development increases the population in the SRCSD service area. According to the *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan*, the permitted capacity of the SRWTP is expected to be reached before 2010. The 2020 Master Plan provides for the expansion of the SRWTP to 218 million gallons per day (mgd) based on growth rates expected to be achieved in Sacramento County by 2020. This flow rate does not represent a buildout population total for SRCSD; rather, it represents the amount of growth expected within the district based on projections. Thus, if new development is approved before 2020, it is assumed that it would not change the rate of growth in the district; rather, it would change the potential location within the SRCSD service area where the growth would occur. Expansion is planned to be phased to provide for sufficient long-term capacity for regional development. Because the SRWTP is planned to accommodate growth in the county by 2020, development on the project site that occurs by 2020 would be accommodated by planned SRWTP capacity. Over time, additional planning at the SRWTP would occur, and overall capacity would be assessed and additional capacity planned for and added. The SRWTP site has sufficient land area to accommodate a substantially higher flow than 218 mgd; however, future plans beyond the next 15 years are speculative. The project and regional

development would contribute to the need to expand wastewater treatment capacity at the SRWTP facility, and therefore would be growth inducing.

## **CONSTRUCTION-RELATED HOUSING DEMAND**

The project would involve a substantial construction effort over a 25- to 30-year period that would bring construction workers to the project site on a daily basis. Because construction workers typically do not change residences each time they are assigned to a new construction site, it is not anticipated that there would be any substantial project-related relocation of construction workers to Rancho Cordova. In addition, approximately 1,781 residents in Rancho Cordova and 37,223 residents in Sacramento County are currently employed in the construction industry (U.S. Census Bureau 2000). Because the existing supply of construction workers would be sufficient to meet the project demand, no substantial increase in demand for housing or goods and services would be created by project construction workers, and thus no growth inducement associated with these workers would occur.

## **PUBLIC SERVICES**

Depending on the alternative selected, project development would include 10,560–15,488 new residential units with an estimated population of 28,828–42,282 new residents at full buildout. Although the project includes the provision of commercial and retail services, on-site services would meet only some of the needs of the project population. The additional population associated with the project would spur an increase in demand for goods and services in the city and region, which could result in additional development to satisfy this demand. In this respect, the project would be growth inducing. As shown in Table 4-1, only development south of the project site has been approved. Most of this surrounding development is either planned or currently undergoing environmental review. Development in the Sunrise Douglas Community Plan/SunRidge Specific Plan area south of the project site is under way. This area would include commercial and retail services that could serve the project site. New services would likely be located where the adopted land use map in the City General Plan currently anticipates them. The City General Plan identifies additional planned development northwest (Westborough Planning Area), northeast (Glenborough Planning Area), and east (Grantline West Planning Area) of the project site. These planned developments include land uses such as residential housing, commercial development, regional town centers, village centers, open spaces, and parks. Because these development areas are independent of the Rio del Oro project and presumably would go forward with or without Rio del Oro, the project would not directly or indirectly result in the urbanization of undeveloped areas north and east of the site.

Six elementary schools, one middle school, and a combined middle school/high school would be developed on-site as part of the project. Completion of the first elementary school is planned for summer 2008; this school would accommodate most of the students generated by development Phase 1. Future development would include construction of the remaining five elementary schools. At project buildout these schools could accommodate all students generated by the project as well as other students residing in Rancho Cordova. Completion of the proposed middle school/high school is anticipated for summer 2009. This school would serve students generated by development Phase 1 and future phases of development on the site as well as other middle school/high school students residing elsewhere in Rancho Cordova. Police, fire, and other public services would be expanded only as necessary to meet project demand. The project would not facilitate additional development with respect to public services (with the exception of schools) because it would not create additional public-service capacity in Rancho Cordova beyond what would be necessary to serve the project site.

## **JOBS/HOUSING BALANCE**

As described in Section 3.2, “Population, Employment, and Housing,” Rancho Cordova’s strong employment base equates to a jobs/housing balance of 3:1, meaning that there are currently three job opportunities in the city for each household. This ratio indicates that there is an imbalance between housing and jobs in the city, with employment growth outpacing housing growth; that Rancho Cordova has more jobs than employed residents; and that the city supports a net in-commuting population. The estimated number of jobs generated by the project and

the number of employable residents on the project site would depend on the project alternative chosen for development. The jobs/housing index would be 0.74 for the Proposed Project Alternative (an excess of 4,731 jobs), 0.99 for the High Density Development Alternative (an excess of 178 jobs), 0.71 for the Impact Minimization Alternative (an excess of 5,149 jobs), or 0.72 for the No Federal Action Alternative (an excess of 2,051 jobs), which indicates that the project would be job rich regardless of the alternative implemented. These employees would generate demand for housing units that are not proposed as part of the Rio del Oro project.

Under the Proposed Project Alternative, the Impact Minimization Alternative, or the No Federal Action Alternative, the project would result in a condition where jobs exceed employable residents, and the project could generate additional housing demand in Rancho Cordova while facilitating development of additional housing. The City General Plan projects that new residential projects would generate approximately 67,230 dwelling units in the city by 2030; development of the Rio del Oro project was included in these projections (City of Rancho Cordova 2005). These planned housing projects are expected to provide housing opportunities in Rancho Cordova and improve the current 3:1 jobs/housing balance to approximately 2.6 jobs to one housing unit; however, the city would remain highly job rich. The excess jobs associated with project buildout would be considered as contributing to the city's housing shortage through increased housing demand. Given these conditions, jobs generated by the project are not expected to be filled by the existing resident labor pool because there is currently a jobs/housing imbalance within Rancho Cordova and most employees with jobs in the city travel to work from residences outside of the city.

Sacramento County as a whole is nearly balanced between housing and employment, with a jobs/housing index of 0.97 in 2000. Although the county is projected to remain close to balanced, the number of out-commuters is estimated to grow to 38,963 county residents by 2025. If only 0.1% of the 2025 out-commuting workers were to fill the jobs generated by the project, then the project would not generate any off-site housing demand (County of Sacramento 2004a, City of Rancho Cordova 2005). Alternatively, if the workers did not live in Rancho Cordova or Sacramento County, or could not be accommodated by housing units in the city, then new housing units outside Rancho Cordova, beyond those anticipated in the county, would be needed to meet the housing demand generated by the proposed jobs. Therefore, under this second scenario, implementation of the Proposed Project Alternative, the Impact Minimization Alternative, or the No Federal Action Alternative would create a housing shortage and would be growth inducing.

Under the High Density Development Alternative, jobs and housing would be nearly even. Most of the employees on the project site could be supported by the proposed on-site housing units. At full buildout under this alternative, the project would generate only 178 jobs beyond the ability of housing on the project site to accommodate these employees. These employees would generate demand for approximately 146 housing units that are not proposed as part of the Rio del Oro project. Therefore, any potential increases in housing demand in Rancho Cordova attributable to jobs generated from this alternative would be minimal, and the project would not be growth inducing in this respect.

## **SUMMARY OF GROWTH-INDUCING IMPACTS**

Overall, the project would be growth inducing because it would improve and construct roadways, provide additional water and wastewater facilities and infrastructure capacity beyond that needed to serve the project, provide school capacity beyond that needed to serve the project, create excess jobs, and contribute to the city's housing shortage. The project would also be growth inducing because the increased population associated with the project would increase demand for goods and services, and would foster population and economic growth in Rancho Cordova or nearby communities. Furthermore, implementing the project would effectively result in development of a population and employment base that is the size of a small town. Undeveloped land north, south, and east of the project site is planned to be developed in the next 10–25 years (Exhibit 4-1). As shown in Table 4-1, development to the south of the project site has undergone environmental review and has been approved. Areas to the north and east are planned, but not approved. Therefore, it can be assumed that these areas would in fact develop with urban uses. In summary, much of the growth that the project would induce has been evaluated and provided for in the City General Plan (Land Use Element).

Implementation of the project is expected to result in the following growth-inducing impacts:

- ▶ Inefficient use of finite land resources from low-density development (Impact Minimization and No Federal Action Alternatives).
- ▶ Increased market demand from low-density development. This increased demand would cause development to be pushed outward toward other areas on the urban periphery. The long-term consequences of such development would be more overall loss of habitat, open space, and farmland, and greater expansion of the overall regional urban areas (Impact Minimization and No Federal Action Alternatives).
- ▶ Increased market demand for development in an area near existing development, for infrastructure, and for services with implementation of Smart Growth principles (High Density Alternative).
- ▶ Enhanced access to currently undeveloped areas, planned for future development, with implementation of project roadway improvements (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).
- ▶ Potential to hasten occurrence of the related impacts associated with the future construction of water supply facilities needed to serve the project and other regional development (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).
- ▶ Potential to hasten the occurrence of the related impacts associated with the construction of sewer interceptor facilities and infrastructure required to serve the project (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).
- ▶ Contribution to the need to expand wastewater treatment capacity at the SRWTP facility (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).
- ▶ Increased demand for goods and services in the city and region, which could result in additional development to satisfy this demand (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).
- ▶ A condition in which jobs exceed employable residents, potentially generating additional demand for housing in Rancho Cordova and facilitating development of additional housing (Proposed Project, Impact Minimization, and No Federal Action Alternatives).
- ▶ Creation of a housing shortage, thereby facilitating development of additional housing (Proposed Project Impact Minimization, and No Federal Action Alternatives).
- ▶ Improvement and construction of roadways, and provision of additional water and wastewater facilities, infrastructure capacity, and school capacity beyond that needed to serve the project, facilitating additional development (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).
- ▶ Increased demand for goods and services, and fostering of population and economic growth in Rancho Cordova or nearby communities (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).
- ▶ Development of a population and employment base that is the size of a small town, which would hasten development of related projects (Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives).

### **4.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

NEPA requires that an environmental analysis include identification of "...any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." CEQA also requires that this subject be addressed for certain categories of projects, including the "[t]he adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency" and any project also subject to NEPA. (State CEQA Guidelines Sections 15127[a] and 15127[c].) Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that this use could have on future generations. Irreversible effects result primarily from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural resource).

There are several resources, both natural and built, that would be expended in the construction and operation of the project. These resources include the building materials used in construction of the project; energy in the form of natural gas, petroleum products, and electricity consumed during construction and operation of housing and commercial land uses; and the human effort required to develop and construct various components of the project. These resources are considered irretrievably committed because their reuse for some other purpose than the project would be impossible or highly unlikely. The project constitutes an irreversible and irretrievable commitment of the site as a land resource, thereby rendering land use for other purposes infeasible. Thus, except to the extent minimized by the designation of the on-site wetland preserve, the land would also be permanently lost as a habitat area.

### **4.4 RELATIONSHIP BETWEEN SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

Effects on resources are often characterized as being short-term or long-term in duration. Impacts that occur only during construction are considered temporary. Impacts that occur over a period of 3 years or less result from short-term uses of the resources in an area most often associated with construction and up to 3 years after construction ceases. Construction can create temporary increases in noise, emissions, and human population that can disturb resources in an area but subside when the work is complete. Long-term effects relate to the maintenance and enhancement of long-term productivity—in particular, the consistency of the project with long-term economic, social, regional, and local planning objectives. These impacts may lead to permanent loss or degradation of resources. The short- and long-term effects of each alternative are summarized below.

#### **4.4.1 SHORT-TERM USES**

Implementation of the Proposed Project Alternative, High Density Alternative, Impact Minimization Alternative, or No Federal Action Alternative would result in temporary and short-term construction-related impacts. As discussed elsewhere in this DEIR/DEIS, the temporary and short-term construction impacts would be associated predominantly with water quality, traffic, air quality emissions, and noise and vibration. The project applicant would implement mitigation measures identified in each resource section to reduce these impacts to a less-than-significant level wherever feasible. At the same time, however, construction of the project would create economic benefits during construction, in the form of jobs and the subsequent direct and indirect demand for goods and services.

Under the No Project Alternative, because no development would occur, there would be no construction and no short-term impacts related to construction activities. However, this alternative would create jobs and related economic benefits resulting from ongoing aggregate mining activities, which are not part of the Rio del Oro project.

## 4.4.2 LONG-TERM USES

Implementation of the Proposed Project Alternative, High Density Alternative, Impact Minimization Alternative, or No Federal Action Alternative would result in long-term impacts related to the loss of biological habitat, open space, and historic structures; a change in the visual character and quality of the project site; air quality emissions; noise; and increased traffic. However, long-term economic productivity of the region would be enhanced. These alternatives, while causing short-term disturbances associated with construction and demolition, would provide the area with an opportunity for substantial economic development. Long-term benefits and increases in productivity from implementation of the project are as follows:

- ▶ A well-integrated, mixed-use master-planned community would be developed.
- ▶ The project would provide employment-generating uses, including a regional town center, for Rancho Cordova and the surrounding region. These uses would result in long-term community benefits, including generation of substantial permanent employment opportunities and needed retail uses along the Sunrise Boulevard corridor and fiscal benefits from tax-generating land uses.
- ▶ The project would provide a diversity of housing types. This would help alleviate the existing and future jobs/housing imbalance in Rancho Cordova and the surrounding region. Particular emphasis would be placed on affordability and proximity of housing to the major employment-generating centers along the U.S. 50 corridor and major existing or planned infrastructure (e.g., light rail and the Bradshaw Section 7 Interceptor).
- ▶ A pedestrian-friendly, human-scale community environment would be developed, with a safe and pleasant place for people to live, work, and recreate.
- ▶ Habitat would be retained, enhanced, or created where feasible, and market demand for development would be focused primarily into a partially disturbed area (as a result of mining activities) to reduce long-term development pressures in more environmentally sensitive areas farther from existing urban uses.
- ▶ The project would facilitate the implementation of regional and city transportation circulation linkages, especially Rancho Cordova Parkway and Americanos Boulevard from the project site north to U.S. 50. It also would facilitate the expansion and use of alternative modes of transportation. The project site would be integrated with the surrounding development and circulation pattern. Street, pedestrian, and bicycle access would be created throughout the project site so that people could complete trips without depending exclusively on major roads, secondary roads, or the automobile.

The No Project Alternative would result only in impacts on the project site associated with ongoing aggregate mining activities (not part of the Rio del Oro project), and these impacts would be substantially fewer than the impacts associated with project development; however, there would be a significant cost to the long-term productivity and future economic and socioeconomic well-being of the area.

## 4.5 UNAVOIDABLE AND ADVERSE ENVIRONMENTAL EFFECTS

### 4.5.1 INTRODUCTION

Section 15126.2(b) of the State CEQA Guidelines requires EIRs to include a discussion of any significant environmental impacts that cannot be avoided if the project is implemented. Chapter 4 of this DEIR/DEIS provides a detailed analysis of all potential significant environmental impacts of the Rio del Oro project, lists feasible mitigation measures that could reduce or avoid the project's significant impacts, and indicates whether these mitigation measures would reduce these impacts to less-than-significant levels. Chapter 5 identifies the significant cumulative impacts of the project. If a specific impact cannot be reduced to a less-than-significant level, it is considered a significant and unavoidable adverse impact.

## 4.5.2 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

A list of significant and unavoidable impacts that would occur from project implementation is provided in Table 4-2. Summary discussions of significant and unavoidable impacts by issue area are provided in the text following the table.

<b>Table 4-2 Summary of Project-Related Significant and Unavoidable Impacts</b>			
Section	Programmatic Impact Number	Project Level Impact Number	Impact Title
Land Use	NA	3.1-7	Potential Land Use Conflict with California Department of Education Minimum Site Criteria for Siting the Proposed Elementary School
	NA	3.1-8	Potential Land Use Conflict with California Department of Education Minimum Site Criteria for Siting the Proposed High School/Middle School
Utilities and Service Systems	3.5-3	3.5-13	Need for Permanent Water Facilities and Infrastructure
	3.5-5	3.5-15	Increased Demand for Permanent Wastewater Conveyance Facilities
	3.5-6	3.5-16	Increased Demand for Wastewater Treatment Plant Facilities
Cultural Resources	3.9-2	NA	Loss of or Damage to Historic Sites, Buildings, and Structures
Biological Resources		3.10-1	Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State
	NA	3.10-2	Loss and Degradation of Sensitive Natural Communities
		3.10-4	Loss and Degradation of Habitat for Special-Status Wildlife
		3.10-6	Cumulative Biological Resources Impacts
Visual Resources	3.11-3	3.11-10	Degradation of Visual Character
	3.11-4	NA	Temporary Degradation of Visual Character for Developed Project Land Uses Caused by Construction Staging Areas
	NA	3.11-11	Temporary Degradation of Visual Character from Construction Activity and Staging Areas
	3.11-5	3.11-12	Temporary Degradation of Visual Character for Future Project-Related Land Uses from Ongoing Mining Activities
	3.11-7	3.11-14	New Skyglow Effects
Traffic	3.14-1	3.14-1	Increases to Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service  <i>Impacts would be significant and unavoidable at the following intersections, roadway segments, and freeway segments:</i>  <u>Intersections:</u> <ul style="list-style-type: none"> <li>▶ SR 16/Excelsior Road (#1)</li> <li>▶ SR 16/Eagles Nest Road (#2)</li> <li>▶ SR 16/Sunrise Boulevard (#3)</li> <li>▶ SR 16/Grant Line Road (#4)</li> <li>▶ Florin Road/Sunrise Boulevard (#5)</li> <li>▶ Grant Line Road/Sunrise Boulevard (#6)</li> <li>▶ Sunrise Boulevard/Douglas Road (#9)</li> <li>▶ Mather Field Road/U.S. 50 eastbound ramps (#12)</li> <li>▶ Zinfandel Drive/U.S. 50 eastbound ramps (#16)</li> <li>▶ Sunrise Boulevard/White Rock Road (#18)</li> <li>▶ Sunrise Boulevard/Folsom Boulevard (#19)</li> <li>▶ Sunrise Boulevard/U.S. 50 westbound ramps (#21)</li> <li>▶ Sunrise Boulevard/Zinfandel Drive (#22)</li> </ul>

**Table 4-2  
Summary of Project-Related Significant and Unavoidable Impacts**

Section	Programmatic Impact Number	Project Level Impact Number	Impact Title
			<ul style="list-style-type: none"> <li>▶ Hazel Avenue/Folsom Boulevard (#23)</li> <li>▶ Hazel Avenue/U.S. 50 eastbound ramps (#24)</li> <li>▶ Hazel Avenue/U.S. 50 westbound ramps (#25)</li> <li>▶ Grant Line Road/White Rock Road (#26)</li> <li>▶ Kilgore Road/White Rock Road (#27)</li> </ul>
			<p><u>Roadway Segments:</u></p> <ul style="list-style-type: none"> <li>▶ Mather Boulevard between Femoyer Street and Douglas Road (#4)</li> <li>▶ Douglas Road between Mather Boulevard and Sunrise Boulevard (#5)</li> <li>▶ White Rock Road between Sunrise Boulevard and Grant Line Road (#9)</li> <li>▶ Zinfandel Drive between the U.S. 50 eastbound ramps and White Rock Road (#15)</li> <li>▶ Sunrise Boulevard between Gold Country Boulevard and Coloma Road (#17)</li> <li>▶ Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps (#18)</li> <li>▶ Sunrise Boulevard between the U.S. 50 eastbound ramps and Folsom Boulevard (#19)</li> <li>▶ Sunrise Boulevard between Folsom Boulevard and White Rock Road (#20)</li> <li>▶ Sunrise Boulevard between White Rock Road and Douglas Road (#21)</li> <li>▶ Sunrise Boulevard between SR 16 and Grant Line Road (#22)</li> <li>▶ Hazel Avenue between Winding Way and the U.S. 50 westbound ramps (#23)</li> </ul>
			<p><u>Freeway Segments:</u></p> <ul style="list-style-type: none"> <li>▶ U.S. 50 between Mather Field Road and Zinfandel Drive (#27) and between Sunrise Boulevard and Hazel Avenue (#29)</li> <li>▶ Various merge and diverge segments of U.S. 50</li> </ul>
	3.14-2	3.14-2	Increased Demand for Single-Occupant Automobile Travel in the Project Area
	3.14-3	3.14-3	Increased Demand for Alternative Modes of Transportation
	3.14-5	3.14-5	Potential Impacts Associated with Alternative Land Uses within the Overflight Zone of the Rio del Oro Specific Plan Area
	3.14-6	3.14-6	Potential Impacts Associated with the City's Transportation Impact Fee Program
	3.14-7	3.14-7	Increases to Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service, under Cumulative (2030) Conditions
			<p><i>Impacts would be significant and unavoidable at the following intersections, roadway segments, and freeway segments:</i></p> <p><u>Intersections:</u></p> <ul style="list-style-type: none"> <li>▶ SR 16/Eagles Nest Road (#2)</li> <li>▶ Grant Line Road/Sunrise Boulevard (#6)</li> <li>▶ Grant Line Road/Kiefer Boulevard (#7)</li> <li>▶ Sunrise Boulevard/Douglas Road (#9)</li> <li>▶ Mather Field Road/U.S. 50 eastbound ramps (#12)</li> </ul>

**Table 4-2  
Summary of Project-Related Significant and Unavoidable Impacts**

Section	Programmatic Impact Number	Project Level Impact Number	Impact Title
			<ul style="list-style-type: none"> <li>▶ Mather Field Road/International Drive (#13)</li> <li>▶ Zinfandel Drive/International Drive (#14)</li> <li>▶ Zinfandel Drive/White Rock Road (#15)</li> <li>▶ Zinfandel Drive/U.S. 50 eastbound ramps (#16)</li> <li>▶ Sunrise Boulevard/White Rock Road (#18)</li> <li>▶ Sunrise Boulevard/Folsom Boulevard (#19)</li> <li>▶ Sunrise Boulevard/U.S. 50 westbound ramps (#21)</li> <li>▶ Sunrise Boulevard/Zinfandel Drive (#22)</li> <li>▶ Hazel Avenue/Folsom Boulevard (#23)</li> <li>▶ Hazel Avenue/U.S. 50 eastbound ramps (#24)</li> <li>▶ Hazel Avenue/U.S. 50 westbound ramps (#25)</li> <li>▶ Grant Line Road/White Rock Road (#26)</li> <li>▶ Sunrise Boulevard/International Drive (#29)</li> <li>▶ Rancho Cordova Parkway/White Rock Road (#30)</li> <li>▶ Rancho Cordova Parkway/U.S. 50 eastbound ramps (#31)</li> <li>▶ White Rock Road/Americanos Boulevard (#39)</li> <li>▶ Hazel Avenue/Gold Country Boulevard (#40)</li> </ul> <p><u>Roadway Segments:</u></p> <ul style="list-style-type: none"> <li>▶ International Drive between South White Rock Road and Zinfandel Drive (#6)</li> <li>▶ Zinfandel Drive between the U.S. 50 eastbound ramps and White Rock Road (#15)</li> <li>▶ Sunrise Boulevard between Gold Country Boulevard and Coloma Road (#17)</li> <li>▶ Sunrise Boulevard between Coloma Road and the U.S. 50 westbound ramps (#18)</li> <li>▶ Sunrise Boulevard between the U.S. 50 eastbound ramps and Folsom Boulevard (#19)</li> <li>▶ Sunrise Boulevard between Folsom Boulevard and White Rock Road (#20)</li> <li>▶ Hazel Avenue between Winding Way and U.S. 50 westbound ramps (#23)</li> <li>▶ U.S. 50 between Mather Field Road and Zinfandel Drive (#27); between Sunrise Boulevard and Rancho Cordova Parkway (#29); between Rancho Cordova Parkway and Hazel Avenue (#30); and between Hazel Avenue and Folsom Boulevard (#31)</li> <li>▶ Sunrise Boulevard between Douglas Road and Chrysanthy Boulevard (#43)</li> <li>▶ Rancho Cordova Parkway between Easton Valley Parkway and White Rock Road (#47)</li> </ul> <p><u>Freeway Segments:</u></p> <ul style="list-style-type: none"> <li>▶ Various merge, diverge, and weave segments of U.S. 50</li> </ul>
Air Quality	3.15-1	3.15-8	Generation of Temporary, Short-Term Construction Emissions of ROG, NO <sub>x</sub> , and PM <sub>10</sub>
	3.15-2	3.15-9	Generation of Long-Term Operational (Regional) Emissions of ROG, NO <sub>x</sub> , and PM <sub>10</sub>
	3.15-4	3.15-11	Exposure of Sensitive Receptors to Short- and Long-Term Emissions of Toxic Air Contaminants
	3.15-7	3.15-14	Increase in Long-Term Atmospheric Greenhouse Gas Emissions

**Table 4-2  
Summary of Project-Related Significant and Unavoidable Impacts**

Section	Programmatic Impact Number	Project Level Impact Number	Impact Title
Noise	3.16-2	3.16-8	Potential Exposure to Stationary-Source Noise Generated by On-site Land Uses
	3.16-3	3.16-9	Potential Exposure to Off-site Stationary-Source Noise
	3.16-5	3.16-11	Compatibility of Proposed Land Uses with Projected Noise Levels
	3.16-6	3.16-12	Potential Exposure to Single-Event Aircraft Noise Levels Exceeding Applicable Standards

Source: Data compiled by EDAW in 2005

## LAND USE

Project implementation would result in indirect significant and unavoidable impacts related to provision of schools because school site plans are not available, and no feasible mitigation is available to ensure that the minimum criteria established by the California Department of Education are met. Until detailed site plans are available and the Folsom Cordova Unified School District conducts a separate, site-specific environmental review, the impact would remain significant and unavoidable.

## UTILITIES AND SERVICE SYSTEMS

### Water Supply

The EIR for the 2002 Zone 40 Water Supply Master Plan (2004) prepared by SCWA (Zone 40 EIR) evaluated the environmental impacts of constructing a proposed 42-inch transmission main along Douglas Road, and a 1.5-million-gallon water tank north of White Rock Road, that would serve the Rio del Oro project. The EIR was certified and the Master Plan was approved. Because these facilities would need to be constructed to serve the project, as well as other development in the region, the environmental impacts of these facilities are associated with development of the project. However, these impacts would also occur without development of the project because the 42-inch transmission main and the water tank are required to serve regional development, and would be needed whether or not the project is developed.

Because there is a relationship between the project and the need for these water facilities, approval of the project may hasten the occurrence of the related impacts. As described in the Zone 40 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. Impacts on visual resources, air quality, noise, and biological resources would remain significant or potentially significant after implementation of mitigation.

Therefore, the Rio del Oro project would contribute to indirect and direct significant impacts associated with the future construction of water supply facilities needed to serve the project and other regional development.

### Wastewater

As the population in the SRCSD service area increases over time, so will flow to the SRWTP. According to the *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan Final Environmental Impact Report* (County of Sacramento 2004c), which was approved in 2004, the permitted capacity of the SRWTP is expected to be reached before 2010. The 2020 Master Plan provides for the expansion of the SRWTP to 218 mgd. This is the total capacity projected to be needed based on growth rates expected to be achieved in the county by 2020. Note that this does not represent a buildout population total for SRCSD; rather, it represents the amount of growth

expected within the district based on projections. Thus, if new development is approved before 2020, it is assumed that it would not change the rate of growth in the district; rather, it would change the potential location within the district where the growth would occur. Expansion is planned to be phased to provide for sufficient long-term capacity.

As described in the SRWTP EIR, the construction and operation of the expanded SRWTP would result in several environmental impacts, most of which would be reduced to a less-than-significant level through mitigation. The only significant and unavoidable impact would be from short-term increases in NO<sub>x</sub> during construction of SRWTP facilities.

Project buildout would generate 6.6 mgd of average dry-weather flow. Because the SRWTP is planned to accommodate growth in the county by 2020, development on the project site that occurs by 2020 would be accommodated by planned SRWTP capacity. Over time, additional planning at the SRWTP would occur, and overall capacity would be assessed and additional capacity planned for and added. The SRWTP site has sufficient land area to accommodate a substantially higher flow than 218 mgd; however, future plans beyond the next 15 years are speculative.

Although there is expected to be sufficient capacity to accommodate project flows, the project would contribute to the direct, significant impact related to air quality from expansions of the SRWTP because it would contribute to the need to expand the facility.

## **CULTURAL RESOURCES**

The 1956–1957 western half of the Solid Propellant Assembly Area and the 1956–1957 component of the Sigma Test Area appear to be eligible for listing in the National Register of Historic Places and the California Register of Historical Resources. Implementation of Mitigation Measure 3.9-2 would ensure that the Solid Propellant Assembly Area and the Sigma Test Area structures and their earthen berms are documented and recorded according to Historic American Building Survey standards. However, under State CEQA Guidelines Section 15064.5, demolition constitutes a substantial adverse change in the significance of a historic resource, and therefore recordation would not mitigate the loss of historic sites, buildings, and structures. Thus, project implementation would result in a significant and unavoidable impact on structures potentially eligible for listing in the National Register of Historic Places and California Register of Historical Resources.

## **BIOLOGICAL RESOURCES**

Project implementation would result in significant impacts on special-status wildlife (federally listed vernal pool invertebrates, valley elderberry longhorn beetle, and Swainson's hawk). Implementation of Mitigation Measures 3.10-1a, 3.10-1b, 3.10-4a, 3.10-4b, 3.10-4c, and 3.10-4d would lessen these direct and indirect impacts by consultation with, issuance of a biological opinion by, and receipt of an incidental take permit from the U.S. Fish and Wildlife Service related to vernal pool invertebrates and valley elderberry longhorn beetle; and creating requirements for preconstruction surveys, establishing appropriate buffer zones, and implementing the City's Swainson's hawk mitigation requirements. However, the removal of approximately 3,300 acres of potential habitat for special-status wildlife and the associated fragmentation of surrounding potentially suitable habitat could be fully mitigated only through a combination of habitat preservation and restoration in the vicinity of the project site. Parcels of habitat in the project vicinity would be of lesser quality following project implementation because of the effects of habitat fragmentation. Because a large enough parcel for habitat preservation in the project vicinity is not available, there would be a net loss of approximately 3,300 acres of habitat for special-status wildlife. Thus, project implementation would result in significant and unavoidable impacts on special-status wildlife.

Project implementation would result in significant impacts on wetlands and other waters of the United States, vernal pools, and sensitive natural communities (riparian habitat, elderberry savanna, and isolated elderberry

shrubs). Implementation of Mitigation Measures 3.10-1a, 3.10-2, and 3.10-3 would lessen these direct and indirect impacts by requiring that a Section 404 permit be obtained, that permit conditions be implemented, and there be no net loss of wetlands; by requiring that a Section 1602 Streambed Alteration Agreement be obtained from the California Department of Fish and Game, that agreement conditions be implemented; and by requiring implementation of the valley elderberry longhorn beetle mitigation and monitoring plan being developed through ESA Section 7 consultation with the U.S. Fish and Wildlife Service. However, the extent of habitat loss and degradation is extensive and contributes significantly to the loss of habitat in the region. The proposed wetland mitigation and monitoring plan in its current version does not propose adequate creation or restoration to offset the aquatic functions and values that would be lost through project implementation, nor does it adequately address potential effects associated with roadway construction and other project components that could contribute to off-site and secondary impacts. Vernal pools and other wetland habitats within the proposed wetland preserve and on adjacent parcels could be adversely affected by habitat fragmentation and other indirect impacts for which no feasible mitigation measures are available. Thus, project implementation would result in significant and unavoidable impacts on wetlands and other waters of the United States, vernal pools, and sensitive natural communities.

In addition, the project's cumulative contribution to loss of biological resources in the region would be significant and unavoidable because implementation of available mitigation measures would not reduce impacts to a less-than-cumulatively-considerable (i.e., less-than-significant) level.

## **VISUAL RESOURCES**

Project implementation would result in significant impacts related to the degradation of visual character and the introduction of nighttime lighting that would obstruct views of the night sky (skyglow). Implementation of Mitigation Measures 3.11-3, 3.11-4, 3.11-5, and 3.11-6 would lessen these direct impacts by requiring project development to conform to the City General Plan design guidelines, screen construction staging and mining areas, establish and conform with lighting standards, and implement a lighting plan. However, conformance with the City General Plan design guidelines would not mitigate the conversion of 3,800 acres of rural viewshed to large-scale urban development; screening of project construction areas (i.e., projects covering a large area or tall buildings) may not always be feasible; and shielding light fixtures or the use of low-pressure sodium lighting would not fully reduce the effects of nighttime skyglow because of the large scale of project development. Furthermore, no feasible mitigation measures are available to reduce impacts related to the alteration of visual character for future project-related land uses from ongoing mining activities. Thus, project implementation would result in significant and unavoidable impacts from visual character degradation and skyglow effects. In addition, the project's cumulative contribution to degradation of visual character from conversion of open space to large-scale urbanization and the increase in nighttime light and glare/skyglow would be significant and unavoidable, because no feasible mitigation measures are available that would reduce impacts to a less-than-significant level.

## **TRAFFIC AND TRANSPORTATION**

Project implementation would increase peak-hour and daily traffic volumes on area roadways such that unacceptable levels of service would result, which is a significant impact under both the baseline and cumulative (2030) traffic scenarios. To reduce the level of impact of the project on roadway segments, intersections, and freeway ramps that have significant and unavoidable impacts (as identified in Section 3.14, "Traffic and Transportation" of this DEIR/DEIS), the project would contribute to and support alternative transportation modes, like light-rail transit from Rancho Cordova to Folsom and Sacramento, and would provide effective connectivity to the light-rail station (from a shuttle or bus). Such contribution and support would improve the effectiveness of alternative transportation modes and has the potential to decrease the amount of traffic generated by the project. Additionally, improvements to the transportation system, consistent with the City's Circulation Element/Plan, would improve operations of area facilities. Support of identified bus rapid transit routes in the area, implementation of mixed-use development in the project area, good bicycle and pedestrian facilities, participation in the 50 Corridor Transportation Management Association, and development of a comprehensive transportation

supply master plan would all have the potential to reduce reliance on the single-occupant vehicle and could decrease impacts on area transportation facilities. These improvements are identified in greater detail as recommended mitigation measures in Section 3.14, “Traffic and Transportation,” of this DEIR/DEIS.

To reduce project traffic volumes on the U.S. 50 corridor and associated freeway ramps (as identified in Section 3.14, “Traffic and Transportation,” of this DEIR/DEIS), parallel capacity improvements could be implemented. These improvements include completion of east-west roadway facilities, consistent with the City’s Circulation Element/Plan. However, improvements necessary to reduce level-of-service impacts to a less-than-significant level either are infeasible or fall under the jurisdiction of the California Department of Transportation and the County, and therefore neither the City nor the project applicant(s) would have control over the timing or implementation of the improvements. Thus, project implementation would result in significant and unavoidable peak-hour and daily traffic volume impacts on area roadways.

Project implementation would significantly increase demand on area roadways and intersections. Implementation of Mitigation Measure 3.14-3 would lessen this direct impact by requiring implementation of a transportation supply master plan. However, the reduction in single-occupant vehicles using area roadways and intersections as a result of implementing the plan would not be substantial. Substantial numbers of single-occupant trips would continue to result from project-generated development. Therefore, this impact related to demand on area roadways and intersections would remain significant and unavoidable.

## **AIR QUALITY**

Project implementation would result in significant air quality impacts from short-term, temporary construction-generated, and long-term operational (regional) emissions of the pollutants ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Implementation of Mitigation Measures 3.15-1 and 3.15-2 would lessen these direct impacts by requiring specific measures to control air pollutant emissions in compliance with applicable rules and regulations of the Sacramento Metropolitan Air Quality Management District. However, emissions exceed thresholds that are set to prevent a violation of or a substantial contribution to a violation of the national ambient air quality standards and California ambient air quality standards. Therefore, a violation of these health-based protective standards would still occur as a result of project implementation, and thus these impacts would remain significant and unavoidable.

Project implementation would also result in significant air quality impacts from exposure of sensitive receptors to short- and long-term toxic air contaminant emissions from on-site mobile and stationary sources. Implementation of Mitigation Measure 3.15-4 would reduce this direct impact by requiring development of a plan to reduce toxic air contaminant emissions and control exposure of receptors. However, because there are no feasible mitigation measures to reduce the health risk associated with off-site mobile-source emissions of toxic air contaminants to a less-than-significant level, this impact would remain significant and unavoidable.

The project would result in potentially significant long-term regional (operational) air quality impacts. Although Mitigation Measure 3.15-2 requires measures to control generation of long-term operational (regional) emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub>, emissions attributable to the project, along with emissions from other reasonably foreseeable future projects in the Sacramento Valley Air Basin as a whole, would continue to contribute to long-term increases in emissions that would exacerbate existing and projected nonattainment conditions. Thus, the project would result in a significant and unavoidable long-term (operational) air quality impact, and the project’s cumulative contribution to this air quality impact would also be cumulatively significant and unavoidable.

## **NOISE**

Project implementation would result in significant impacts related to exposure of on-site sensitive receptors to noise levels from on- and off-site noise sources in excess of applicable standards. Implementation of Mitigation Measures 3.16-3, 3.16-5, and 3.16-6 would lessen these direct impacts by requiring completion of acoustical analyses, compliance with the City Noise Ordinance, and compliance with specific additional measures to control

source noise and provide public notification regarding an aviation easement. Although interior noise levels would be reduced to less-than-significant levels, exterior noise levels could still exceed applicable land-use compatibility levels. Additionally, noise from activities on land or from land uses over which the City has limited control could still result in stationary-source noise levels at nearby sensitive receptors that exceed the City's maximum allowable noise standards; therefore, the impact of potential exposure to stationary-source noise generated by on-site land uses would remain significant and unavoidable. Furthermore, because no feasible mitigation measures are available to reduce exterior noise to a less-than-significant level, these impacts would remain significant and unavoidable. Additionally, noise from activities on land or from land uses over which the City has limited control could still result in stationary-source noise levels at nearby sensitive receptors that exceed the City's maximum allowable noise standards; therefore, the impact of potential exposure to stationary-source noise generated by on-site land uses would remain significant and unavoidable. Furthermore, the project's cumulative contribution to exposure of sensitive receptors to traffic noise would remain significant and unavoidable because no feasible mitigation measures are available that would reduce impacts to a less-than-significant level.

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## 7 INDEX

Advisory Council on Historic Preservation (ACHP) .....	1-14, 3.9-8
Aerojet General Corporation (Aerojet).....	ES-53, ES-54, ES-101, ES-102, ES-108, ES-109, 1-1, 1-2, 1-4, 1-14, 2-4, 2-16, 2-26, 2-33, 2-34, 2-69, 2-70, 3.1-1, 3.1-22, 3.1-28, 3.1-29, 3.1-33, 3.1-34, 3.2-16, 3.4-3, 3.4-4, 3.4-20, 3.4-30, 3.4-30, 3.4-31, 3.4-33, 3.5-1, 3.5-3, 3.5-11, 3.5-14, 3.5-20, 3.5-23, 3.9-3, 3.9-5, 3.9-6, 3.9-12, 3.10-43, 3.11-1, 3.11-8, 3.11-11, 3.11-13, 3.13-1, 3.13-2, 3.13-5, 3.13-6, 3.13-7, 3.13-8, 3.13-9, 3.13-10, 3.13-11, 3.13-12, 3.13-13, 3.13-18, 3.13-19, 3.13-20, 3.13-21, 3.13-22, 3.13-22, 3.13-24, 3.13-25, 3.13-27, 3.13-28, 3.14-15, 3.14-25, 3.14-47, 3.14-77, 3.14-95, 3.14-112, 3.14-119, 3.14-120, 3.14-121, 3.15-22, 3.15-26, 3.15-28, 3.15-42, 3.15-46, 3.15-48, 3.16-3, 3.16-5, 3.16-9, 3.16-16, 3.16-20, 3.16-23, 3.16-27, 3.16-29, 4-10, 4-14, 4-15, 5-2, 5-3, 5-4, 5-5, 5-7, 5-9, 5-12, 5-13, 5-15, 5-16, 5-19, 5-20, 5-21
Aerojet Mining Amendment Mitigated Negative Declaration .....	2-69, 2-70, 3.1-29, 3.1-34, 3.10-43, 3.13-20, 3.13-24, 3.13-25, 3.15-22, 3.15-26, 3.15-28, 3.15-42, 3.15-46, 3.15-48, 3.16-16, 3.16-20, 3.16-27, 3.16-29, 5-2, 5-3, 5-4, 5-5, 5-9, 5-13, 5-15, 5-16, 5-19, 5-20
Ahart’s dwarf rush ( <i>Juncus leiospermus</i> var. <i>ahartii</i> ) .....	3.10-8, 3.10-11, 3.10-12
Air Quality Attainment Plan (AQAP) .....	1-15, 3.15-15
Airborne Toxicics Control Measure (ATCM).....	1-15, 3.15-16, 3.15-30, 3.15-31
Airport Land Use Commission (ALUC) .....	1-14, 14, 3.1-24, 3.16-10, 3.16-29
Airport Land Use Compatibility Plan (ALUCP).....	1-15, 14, 3.1-24, 3.16-5, 3.16-11, 3.16-13, 3.16-28, 3.16-29, 3.16-34
Alquist-Priolo Earthquake Fault Zoning Act.....	3.7-16, 5-10
American badger ( <i>Taxidea taxus</i> ) .....	3.10-10, 3.10-13
Area of Potential Effects (APE) .....	1-15, 3.9-9
Arroyo willow ( <i>Salix lasiolepis</i> ) .....	3.10-2, 3.10-5, 3.10-6
Asbestos.....	ES-54, ES-57, 3.1-5, 3.7-6, 3.13-6, 3.13-23, 3.13-28, 3.13-29, 3.15-7, 3.15-14
Assembly Bill 1553 (AB 1553).....	3.3-3
AT&T Inc. ....	1-15, 1-22, 2-41, 3.5-5, 3.5-7, 3.5-31
Atmospheric Greenhouse Gases (GHG).....	ES-116, ES-118, 1-18, 3.15-9, 3.15-10, 3.15-11, 3.15-13, 3.15-17, 3.15-19, 3.15-20, 3.15-36, 3.15-37, 3.15-37, 3.15-49, 3.15-50
Average Daily Traffic, Average Daily Trips (ADT).....	1-14, 3.14-7, 3.14-21, 3.14-31, 3.14-79
Baseline Risk Assessment (BRA) .....	1-15, 3.13-12, 3.13-13, 3.15-35
Best Available Control Technology (BACT).....	1-15, 3.15-16, 3.15-17, 3.15-25, 3.15-29
Best management practice (BMP).....	ES-14, 1-15, 2-71, 3.4-15
Biological Assessment (BA) .....	ES-35, 1-15, 3.10-29
Biological Opinion (BO) .....	ES-40, ES-41, ES-42, ES-43, 1-15, 3.10-43, 3.10-44, 3.10-44, 3.10-45, 3.10-45, 3.10-46

Black-tailed hare ( <i>Lepus californicus</i> ) .....	3.10-6
Blessed milk thistle ( <i>Silybum marianum</i> ).....	3.10-2
Blueprint— <i>see</i> Sacramento Region Blueprint	
Boeing Corporation .....	3.1-29, 3.1-34, 3.5-1, 3.5-11, 3.5-14, 3.13-1, 3.13-5, 3.13-10, 3.13-12, 3.13-13, 3.13-20, 3.15-30, 5-4, 5-16, 5-19
Bogg’s Lake hedge hyssop ( <i>Gratiola heterosepala</i> ) .....	3.10-7, 3.10-8, 3.10-12
Burrowing owl ( <i>Athene cunicularia</i> ).....	ES-43, 3.10-9, 3.10-13, 3.10-41, 3.10-46
California Air Resources Board (ARB).....	ES-111, ES-114, 1-15, 3.15-1, 3.15-2, 3.15-5, 3.15-6, 3.15-7, 3.15-8, 3.15-9, 3.15-10, 3.15-13, 3.15-14, 3.15-15, 3.15-16, 3.15-17, 3.15-19, 3.15-20, 3.15-23, 3.15-28, 3.15-30, 3.15-31, 3.15-33, 3.15-37, 3.15-38, 3.15-43, 5-18
California ambient air quality standards (CAAQS) .....	ES-110, ES-113, ES-116, ES-117, 1-15, 3.15-2, 3.15-5, 3.15-13, 3.15-18, 3.15-20, 3.15-21, 3.15-24, 3.15-25, 3.15-38, 3.15-39, 3.15-40, 3.15-41, 3.15-42, 3.15-43, 3.15-44, 3.15-45, 3.15-50
California-American Water Company (Cal-Am) .....	1-15, 2-26, 2-33, 3.5-1, 3.5-9
California Building Code, California Building Standards Code (CBC) .....	ES-28, ES-29, ES-30, 1-15, 3.7-3, 3.7-4, 3.7-15, 3.7-19, 3.7-21, 3.7-22
California Clean Air Act (CCAA).....	1-15, 3.15-13, 3.15-14, 3.15-15
California Department of Conservation (CDC).....	1-15, 3.1-2, 3.1-8, 3.1-22, 5-4
California Department of Education (CDE), CDE siting criteria.....	ES-8, ES-9, ES-10, 1-16, 3-6, 3.1-3, 3.1-4, 3.1-5, 3.1-6, 3.1-7, 3.1-22, 3.1-27, 3.1-31, 3.1-31, 3.1-32, 3.1-32, 3.1-35, 3.1-36, 3.1-37, 3.1-37, 3.6-6, 5-4
California Department of Fish and Game (DFG).....	ES-37, ES-38, ES-39, ES-42, ES-43, ES-44, ES-45, 1-17, 3.4-13, 3.10-7, 3.10-8, 3.10-9, 3.10-12, 3.10-13, 3.10-14, 3.10-18, 3.10-19, 3.10-20, 3.10-27, 3.10-33, 3.10-34, 3.10-36, 3.10-37, 3.10-45, 3.10-46, 3.10-47, 3.10-47, 3.10-48, 3.10-50, 5-2, 5-14
California Department of Housing and Community Development (HCD) .....	1-18, 3.2-1, 5-5
California Department of Toxic Substances Control (DTSC) .....	ES-9, ES-10, ES-53, ES-54, 1-2, 1-17, 3.1-5, 3.1-6, 3.1-23, 3.1-28, 3.1-29, 3.1-30, 3.1-31, 3.1-32, 3.1-33, 3.1-34, 3.1-36, 3.4-33, 3.5-11, 3.13-1, 3.13-2, 3.13-5, 3.13-7, 3.13-8, 3.13-9, 3.13-10, 3.13-11, 3.13-15, 3.13-17, 3.13-18, 3.13-19, 3.13-20, 3.13-21, 3.13-22, 3.13-24, 3.13-27, 3.13-28, 3.13-29
California Department of Transportation (Caltrans) .....	ES-61, ES-62, ES-62, ES-63, ES-63, ES-64, ES-66, ES- 68, ES-69, ES-69, ES-70, ES-72, ES-77, ES-77, ES-78, ES-80, ES-83, ES-88, ES-91, ES-94, ES-95, ES-97, ES-97, ES-100, ES-107, ES-110, 1-15, 13, 14, 3.6-2, 3.11-10, 3.14-1, 3.14-13, 3.14-16, 3.14-22, 3.14-23, 3.14-24, 3.14-25, 3.14-51, 3.14-52, 3.14-53, 3.14-53, 3.14-54, 3.14-56, 3.14-57, 3.14-57, 3.14-58, 3.14-59,

	3.14-60, 3.14-60, 3.14-61, 3.14-61, 3.14-62, 3.14-63, 3.14-67, 3.14-68, 3.14-69, 3.14-70, 3.14-70, 3.14-72, 3.14-72, 3.14-74, 3.14-75, 3.14-97, 3.14-98, 3.14-100, 3.14-103, 3.14-104, 3.14-105, 3.14-107, 3.14-108, 3.14-108, 3.14-111, 3.14-111, 3.14-113, 3.14-118, 3.14-118, 3.14-121, 3.15-27, 3.15-47, 3.16-14, 3.16-16, 3.16-33, 5-3, 5-4, 5-15, 5-17, 5-19, 5-20
California Department of Water Resources (DWR).....	1-17, 2-16, 3.4-1, 3.4-21, 3.12-1, 5-16
California Division of Mines and Geology (CDMG).....	ES-29, ES-30, 1-16, 3.7-3, 3.7-6, 3.7-14, 3.7-21, 3.7-23
California Education Code .....	3.1-4, 3.6-5
California Endangered Species Act (CESA).....	1-10, 1-16, 3.10-6, 3.10-9, 3.10-18, 3.10-39
California Environmental Protection Agency (Cal/EPA).....	1-15, 3.3-2, 3.15-13
California Fish and Game Code .....	2-79, 3.10-6, 3.10-14, 3.10-18, 3.10-19, 3.10-32, 3.10- 33, 3.10-41
California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) .....	3.13-17
California Highway Patrol (CHP) .....	1-16, 3.6-2, 3.6-7, 3.13-17, 3.13-18, 3.13-24
California Important Farmland Inventory System.....	3.1-8
California Integrated Waste Management Act (CIWMA).....	3.16-13
California Integrated Waste Management Board (CIWMB).....	1-16, 3.5-4, 3.5-6
California linderiella ( <i>Linderiella occidentalis</i> ).....	3.10-12
California Native Plant Society (CNPS) .....	1-16, 2-73, 2-79, 3.10-7, 3.10-8, 3.10-9, 3.10-11, 3.10-12, 3.10-19, 3.10-49, 5-13
California Natural Diversity Database (CNDDDB).....	1-16, 2-73, 2-79, 3.10-7, 3.10-9, 3.10-11, 3.10-12, 3.10-13, 3.10-14, 3.10-15, 3.10-19, 3.10-33, 5-13
California Occupational Safety and Health Administration (Cal-OSHA) .....	ES-54, 1-15, 3.13-17, 3.13-23, 3.13-29
California poppy ( <i>Eschscholzia californica</i> ).....	3.10-2
California Register of Historical Resources (CRHR).....	1-16, 3.9-3, 3.9-5, 3.9-6, 3.9-8, 3.9-9, 3.9-13, 3.9-15, 3.9-19, 3.9-20
California Scenic Highway Program.....	3.11-10
California Seismic Hazards Mapping Act.....	3.7-15
California State Nondegradation Policy .....	3.4-14
California Surface Mining and Reclamation Act (SMARA) .....	1-23, 3.7-14, 3.7-16
California tiger salamander ( <i>Ambystoma californiense</i> ) ..	3.10-10, 3.10-13
California Toxics Rule (CTR) .....	1-16, 3.4-14
Carbon monoxide (CO).....	ES-114, ES-117, 1-16, 3.1-29, 3.1-34, 3.15-1, 3.15-2, 3.15-3, 3.15-5, 3.15-6, 3.15-8, 3.15-15, 3.15-18, 3.15-27, 3.15-28, 3.15-46, 3.15-47, 3.15-48, 3.15-48, 3.15-49
City of Rancho Cordova (City) .....	ES-1, ES-2, ES-4, ES-5, ES-6, ES-7, ES-9, ES-10, ES-12, ES-13, ES-13, ES-14, ES-16, ES-17, ES-17, ES-18, ES-19, ES-23, ES-24, ES-27, ES-28, ES-28, ES-29, ES-32, ES-33, ES-33, ES-34, ES-34, ES-35,

ES-36, ES-37, ES-38, ES-39, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44, ES-45, ES-45, ES-46, ES-47, ES-48, ES-49, ES-52, ES-53, ES-54, ES-54, ES-56, ES-56, ES-58, ES-59, ES-60, ES-61, ES-62, ES-63, ES-63, ES-64, ES-65, ES-66, ES-66, ES-67, ES-68, ES-69, ES-69, ES-70, ES-71, ES-72, ES-73, ES-74, ES-74, ES-75, ES-76, ES-77, ES-77, ES-78, ES-79, ES-80, ES-80, ES-81, ES-82, ES-83, ES-83, ES-84, ES-84, ES-85, ES-85, ES-86, ES-87, ES-88, ES-89, ES-89, ES-90, ES-91, ES-92, ES-93, ES-94, ES-94, ES-95, ES-96, ES-96, ES-97, ES-97, ES-98, ES-99, ES-100, ES-102, ES-102, ES-103, ES-103, ES-104, ES-105, ES-106, ES-107, ES-107, ES-108, ES-110, ES-111, ES-113, ES-113, ES-114, ES-115, ES-120, ES-120, ES-121, ES-121, ES-122, ES-124, ES-124, ES-125, 1-1, 1-3, 1-4, 1-6, 1-7, 1-8, 1-9, 1-10, 1-11, 1-13, 1-14, 1-16, 2-1, 2-2, 2-4, 2-8, 2-13, 2-14, 2-15, 2-25, 2-33, 2-52, 2-57, 2-58, 2-63, 2-64, 2-67, 2-69, 2-70, 2-71, 2-72, 2-73, 2-81, 2-82, 3-2, 3-3, 3-6, 3.1-1, 3.1-2, 3.1-7, 13, 15, 17, 18, 3.1-19, 3.1-20, 3.1-21, 3.1-22, 3.1-23, 3.1-24, 3.1-24, 3.1-25, 3.1-26, 3.1-29, 3.1-31, 3.1-34, 3.1-36, 3.1-37, 3.1-38, 3.2-1, 3.2-2, 3.2-3, 3.2-4, 3.2-5, 3.2-6, 3.2-8, 3.2-9, 3.2-10, 3.2-11, 3.2-12, 13, 3.2-14, 3.2-15, 3.2-16, 3.3-1, 3.3-4, 3.3-6, 3.4-7, 3.4-15, 3.4-16, 3.4-17, 3.4-19, 3.4-20, 3.4-20, 3.4-21, 3.4-23, 3.4-24, 3.4-25, 3.4-25, 3.4-26, 3.4-27, 3.4-27, 3.4-28, 3.4-29, 3.4-29, 3.4-31, 3.5-2, 3.5-3, 3.5-4, 3.5-6, 3.5-7, 3.5-10, 3.5-11, 3.5-12, 3.5-15, 3.5-16, 3.5-17, 3.5-19, 3.5-20, 3.5-22, 3.5-24, 3.5-25, 3.5-28, 3.5-29, 3.5-30, 3.5-31, 3.5-32, 3.5-34, 3.5-35, 3.5-36, 3.5-39, 3.5-40, 3.5-41, 3.5-45, 3.6-1, 3.6-2, 3.6-6, 3.6-7, 3.6-8, 3.6-9, 3.6-9, 3.6-10, 3.6-11, 3.6-12, 3.6-12, 3.6-13, 3.6-14, 3.6-15, 3.6-17, 3.6-18, 3.6-19, 3.6-20, 3.6-21, 3.6-22, 3.6-23, 3.6-24, 3.6-25, 3.7-4, 3.7-13, 3.7-14, 3.7-16, 3.7-18, 3.7-19, 3.7-20, 3.7-21, 3.7-21, 3.7-22, 3.8-6, 3.9-3, 3.9-11, 3.9-13, 3.9-14, 3.9-15, 3.9-16, 3.9-17, 3.9-18, 3.9-19, 3.10-6, 3.10-14, 3.10-19, 3.10-20, 3.10-22, 3.10-25, 3.10-26, 3.10-27, 3.10-28, 3.10-29, 3.10-30, 3.10-31, 3.10-31, 3.10-33, 3.10-36, 3.10-37, 3.10-37, 3.10-38, 3.10-39, 3.10-43, 3.10-44, 3.10-44, 3.10-45, 3.10-45, 3.10-46, 3.10-47, 3.10-47, 3.10-48, 3.10-50, 3.10-51, 3.10-51, 3.10-52, 3.11-1, 3.11-8, 3.11-12, 3.11-14, 3.11-15, 3.11-15, 3.11-16, 3.11-16, 3.11-17, 3.11-18, 3.11-19, 3.11-20, 3.11-22, 3.12-1, 3.12-6, 3.12-7, 3.12-8, 3.12-9, 3.12-10, 3.12-11, 3.12-13, 3.13-10, 3.13-17, 3.13-18, 3.13-19, 3.13-20, 3.13-21, 3.13-22, 3.13-22, 3.13-23, 3.13-24, 3.13-25, 3.13-26, 3.13-26, 3.13-27, 3.13-28, 3.14-1, 3.14-2, 3.14-6, 3.14-16, 3.14-17, 3.14-18, 3.14-19, 3.14-20, 3.14-21, 3.14-22, 3.14-23, 3.14-24, 3.14-25, 3.14-26, 3.14-29, 3.14-31, 3.14-32, 3.14-49, 3.14-50, 3.14-51, 3.14-52, 3.14-53, 3.14-54, 3.14-55, 3.14-56,

3.14-57, 3.14-57, 3.14-58, 3.14-58, 3.14-59, 3.14-60,  
 3.14-60, 3.14-61, 3.14-61, 3.14-62, 3.14-62, 3.14-63,  
 3.14-64, 3.14-65, 3.14-66, 3.14-67, 3.14-68, 3.14-69,  
 3.14-70, 3.14-71, 3.14-72, 3.14-73, 3.14-74, 3.14-75,  
 3.14-76, 3.14-77, 3.14-78, 3.14-78, 3.14-79, 3.14-79,  
 3.14-80, 3.14-98, 3.14-99, 3.14-100, 3.14-101, 3.14-102,  
 3.14-103, 3.14-103, 3.14-104, 3.14-105, 3.14-106,  
 3.14-107, 3.14-108, 3.14-109, 3.14-110, 3.14-111,  
 3.14-112, 3.14-113, 3.14-114, 3.14-115, 3.14-116,  
 3.14-117, 3.14-118, 3.14-119, 3.14-121, 3.15-15,  
 3.15-21, 3.15-22, 3.15-23, 3.15-24, 3.15-26, 3.15-28,  
 3.15-31, 3.15-32, 3.15-33, 3.15-34, 3.15-35, 3.15-36,  
 3.15-37, 3.15-38, 3.15-40, 3.15-42, 3.15-45, 3.15-48,  
 3.16-9, 3.16-11, 3.16-12, 3.16-13, 3.16-14, 3.16-15,  
 3.16-16, 3.16-17, 3.16-18, 3.16-20, 3.16-20, 3.16-21,  
 3.16-22, 3.16-22, 3.16-23, 3.16-24, 3.16-24, 3.16-27,  
 3.16-28, 3.16-29, 3.16-30, 3.16-30, 3.16-31, 3.16-32,  
 3.16-32, 3.16-34, 3.16-35, 3.16-37, 3.16-38, 3.16-39,  
 4-2, 4-4, 4-7, 4-9, 4-10, 4-13, 4-14, 4-15, 4-16, 4-17,  
 4-23, 4-25, 4-26, 4-27, 4-28, 5-1, 5-2, 5-3, 5-4, 5-5, 5-6,  
 5-7, 5-8, 5-9, 5-12, 5-13, 5-14, 5-15, 5-16, 5-17, 5-19,  
 5-20, 5-21, 6-1

City of Rancho Cordova  
 Capital Improvement Program ..... 3.14-17  
 City of Rancho Cordova Noise Ordinance..... 3.16-13  
 Cleanup and Abatement Order (CAO) ..... 1-15, 3.13-5, 3.13-10, 3.13-18, 3.13-19  
 Community noise equivalent level (CNEL) ..... ES-7, ES-8, 1-16, 2-70, 2-71, 14, 3.1-24, 3.1-27, 3.1-28,  
 3.1-32, 3.16-1, 3.16-5, 3.16-8, 3.16-10, 3.16-11, 3.16-12,  
 3.16-13, 3.16-25, 3.16-26, 3.16-27, 3.16-27, 3.16-28,  
 3.16-29, 3.16-32, 3.16-35, 3.16-36, 3.16-37  
 Comprehensive Land Use Plan (CLUP)..... ES-7, ES-8, 1-16, 3.1-2, 13, 14, 3.1-22, 3.1-24, 3.1-27,  
 3.1-28, 3.1-32, 3.16-11  
 Conservancy fairy shrimp (*Branchinecta conservatio*).... 3.10-11  
 Cooper’s hawk (*Accipiter cooperii*) ..... 3.10-9, 3.10-13, 3.10-41  
 Cooperating agency (agencies)..... ES-5, 1-9, 1-10, 1-11  
 Cordova Recreation & Park District (CRPD)..... ES-52, 1-16, 3.12-1, 3.12-2, 3.12-6, 3.12-7, 3.12-8,  
 3.12-9, 3.12-10, 3.12-11, 3.12-11, 3.12-12, 3.12-13, 5-15  
 Cortese-Knox-Hertzberg Act of 2000 ..... 3.1-3, 3.1-23  
 County of Sacramento General Plan  
 (County General Plan)..... 2-72, 3.7-4, 3.7-14, 3.16-12, 3.16-13, 4-4  
 County Sanitation District No. 1 (CSD-1)..... ES-7, ES-8, ES-19, ES-22, 1-16, 2-34, 2-41, 2-55, 2-72,  
 14, 3.1-23, 3.1-24, 3.1-27, 3.5-3, 3.5-7, 3.5-17, 3.5-18,  
 3.5-18, 3.5-19, 3.5-20, 3.5-21, 3.5-22, 3.5-23, 3.5-24,  
 3.5-25, 3.5-32, 3.5-33, 3.5-34, 3.5-35, 3.5-40, 3.5-43,  
 3.5-44, 4-11, 5-7, 5-8, 5-22  
 Coyote (*Canis latrans*) ..... 3.10-6  
 Coyote brush (*Baccharis pilularis*) ..... 3.10-1, 3.10-2, 3.10-5  
 Day-night average sound level (L<sub>dn</sub>)..... 1-19, 3.16-1, 3.16-8, 3.16-10, 3.16-11, 3.16-12, 3.16-25,  
 3.16-26, 3.16-27, 3.16-27, 3.16-35, 3.16-36, 3.16-37

Dovefoot geranium ( <i>Geranium molle</i> ) .....	3.10-2
Drainage .....	ES-2, ES-4, ES-12, ES-14, ES-14, ES-16, ES-36, ES-37, ES-46, ES-59, ES-86, ES-87, 1-2, 2-13, 2-15, 2-16, 2-21, 2-22, 2-42, 2-51, 2-70, 2-80, 2-81, 2-84, 3.1-21, 3.4-1, 3.4-3, 3.4-4, 3.4-15, 3.4-16, 3.4-17, 3.4-18, 3.4-19, 3.4-20, 3.4-20, 3.4-21, 3.4-22, 3.4-22, 3.4-23, 3.4-25, 3.4-26, 3.4-27, 3.4-27, 3.4-28, 3.4-32, 3.4-33, 3.7-15, 3.7-16, 3.10-1, 3.10-21, 3.10-22, 3.10-28, 3.10-31, 3.10-34, 3.10-37, 3.10-41, 3.10-49, 3.10-50, 3.10-51, 3.13-7, 3.13-26, 3.14-49, 3.14-80, 4-14, 5-6, 5-15
Dredge tailings .....	ES-4, 1-2, 2-57, 2-64, 2-67, 3-2, 3-3, 3-4, 3-7, 3.1-1, 3.2-8, 3.4-3, 3.4-4, 3.4-7, 3.4-23, 3.4-31, 3.7-1, 3.7-5, 3.7-6, 3.7-10, 3.7-11, 3.7-13, 3.7-14, 3.7-19, 3.7-22, 3.7-23, 3.8-1, 3.8-4, 3.8-6, 3.9-3, 3.9-13, 3.9-19, 3.10-1, 3.11-1, 3.11-8, 3.11-9, 3.11-11, 3.11-12, 3.11-13, 3.11-14, 3.11-15, 3.11-16, 3.11-18, 3.11-20, 3.11-22, 3.13-5, 3.13-8, 3.13-9, 3.13-20, 3.13-27, 3.15-31, 3.16-29
Dwarf downingia ( <i>Downingia pusilla</i> ).....	3.10-7
Elderberry ( <i>Sambucus mexicana</i> ).....	ES-2, ES-42, ES-43, 1-24, 2-15, 2-67, 2-69, 2-79, 3.5-21, 3.10-1, 3.10-2, 3.10-5, 3.10-11, 3.10-12, 3.10-14, 3.10-21, 3.10-22, 3.10-32, 3.10-33, 3.10-34, 3.10-35, 3.10-35, 3.10-41, 3.10-42, 3.10-45, 3.10-46, 4-25, 4-26
Elliott Homes, Inc.....	ES-1, ES-2, 1-1, 1-2, 1-3, 1-6, 1-7, 1-8, 1-13, 2-4, 3.1-4, 3.1-27, 3.1-32, 3.11-9, 3.13-1, 3.13-2, 3.13-5, 3.13-6, 3.13-7, 3.13-19, 4-10, 5-1, 5-2, 5-3, 5-5, 5-6, 5-7, 5-8, 5-12, 5-14, 5-15, 5-16, 5-17
Emergency response to hazardous materials incidents.....	3.13-17
Employment .....	ES-10, ES-11, 1-1, 1-2, 1-4, 1-8, 2-14, 2-73, 3.1-20, 3.1-24, 3.1-37, 3.2-2, 3.2-3, 3.2-4, 3.2-5, 3.2-6, 3.2-7, 3.2-8, 3.2-10, 3.2-11, 3.2-11, 3.2-12, 3.2-14, 3.2-15, 3.2-15, 3.2-16, 4-13, 4-16, 4-17, 4-18, 4-20
Energy efficiency standards .....	3.5-6, 3.5-28, 3.5-29
Energy-equivalent noise level ( $L_{eq}$ ).....	1-19, 3.16-1, 3.16-4, 3.16-12, 3.16-15, 3.16-16, 3.16-19
Entitlements.....	ES-1
Environmental justice .....	ES-11
Environmentally superior alternative .....	ES-4
Eastern County Replacement Water Supply Project (RWSP).....	1-22, 3.5-1, 3.5-14
Executive Order 11312: Invasive Species .....	3.10-18
Executive Order 11990: Protection of Wetlands.....	3.10-18
Executive Order 12898: Federal Actions to Address Environmental Justice in Minority and Low Income Populations .....	3-2, 3.3-1, 3.3-2
Farmland Mapping and Monitoring Program (FMMP) ...	1-17, 3.1-8, 3.1-22, 3.1-23
Federal Antidegradation Policy .....	3.4-12

Federal Aviation Administration (FAA) .....	ES-92, 1-17, 13, 3.14-101, 3.14-102, 3.15-30, 3.16-33
Federal Clean Air Act (CAA).....	1-15, 3.15-12, 3.15-13, 3.15-14, 3.15-15, 3.15-16
Federal Clean Air Act Amendments (CAAA) .....	1-15, 3.15-12, 3.15-14, 3.15-15, 3.15-16
Federal Clean Water Act (CWA) .....	ES-34, ES-36, 1-16, 3.4-11, 3.4-12, 3.4-13, 3.10-6, 3.10-14, 3.10-17, 3.10-18, 3.10-19, 3.10-20, 3.10-27, 3.10-29, 3.10-30, 3.10-32
Federal Earthquake Hazards Reduction Act.....	3.7-15
Federal Emergency Management Agency (FEMA).....	1-17, 2-16, 3.1-6, 3.1-30, 3.1-35, 3.4-1, 3.4-11, 3.4-21, 3.7-15
Federal Endangered Species Act (ESA).....	ES-41, ES-42, ES-43, 1-3, 1-5, 1-9, 1-10, 1-17, 2-8, 2-63, 3.10-6, 3.10-9, 3.10-12, 3.10-17, 3.10-34, 3.10-39, 3.10-41, 3.10-44, 3.10-45, 3.10-46, 4-26
Ferruginous hawk ( <i>Buteo regalis</i> ).....	3.10-10
Flooding, flood risk .....	ES-12, ES-13, ES-15, 3.1-6, 3.1-30, 3.1-35, 3.4-18, 3.4-21, 3.4-31, 3.4-32
Floodplain.....	2-21, 2-70, 3.1-6, 3.1-30, 3.1-35, 3.4-1, 3.4-21, 3.8-1, 3.8-3, 3.10-33
Folsom Cordova Unified School District (FCUSD).....	ES-9, ES-10, 1-17, 2-25, 2-52, 2-54, 3.1-4, 3.1-5, 3.1-6, .1-7, 3.1-27, 3.1-31, 3.1-31, 3.1-32, 3.1-32, 3.1-36, 3.1-36, 3.1-38, 3.6-3, 3.6-4, 3.6-5, 3.6-7, 3.6-13, 3.6-14, 3.6-14, 3.6-15, 3.6-15, 3.6-16, 3.6-16, 3.6-17, 3.6-21, 3.6-22, 3.6-22, 3.6-23, 3.6-24, 3.6-24, 3.6-25, 3.6-25, 3.9-2, 5-9, 5-12
Foothill pine ( <i>Pinus sabiniana</i> ).....	3.10-5
Fremont cottonwood ( <i>Populus fremontii</i> ) .....	3.10-2, 3.10-5, 3.10-6
GenCorp Realty Investments (GenCorp) .....	ES-1, ES-2, 1-1, 1-2, 1-3, 1-6, 1-8, 1-18, 2-4, 2-55, 3.5-8, 3.9-14, 3.13-1, 3.13-2, 3.16-9, 5-1, 5-2, 5-3, 5-5, 5-7, 5-8
General Conformity.....	3.15-12
General Plan Guidelines—see State of California General Plan Guidelines	
Giant garter snake ( <i>Thamnophis gigas</i> ).....	2-79, 3.10-14, 5-14
Golden State Water Company (GSWC).....	1-18, 2-33, 3.5-1, 3.5-8, 3.5-9, 3.5-9, 3.5-40
Gopher snake ( <i>Pituophis melanoleucus</i> ) .....	3.10-6
Governor’s Office of Emergency Services (OES) .....	1-21, 3.13-17
Granite Construction Company .....	2-67, 3-2, 3.1-1, 3.2-8, 3.7-14, 3.11-8
Grantline West Mitigated Negative Declaration .....	2-69, 2-70, 3.1-29, 3.1-34, 3.4-20, 3.10-43, 3.13-20, 3.13-24, 3.13-25, 3.15-22, 3.15-26, 3.15-28, 3.15-42, 3.15-46, 3.15-48, 3.16-16, 3.16-20, 3.16-27, 3.16-29, 5- 2, 5-4, 5-6, 5-13, 5-16, 5-19, 5-21
Greene’s legenera ( <i>Legenera limosa</i> ).....	ES-45, ES-46, 3.10-8, 3.10-11, 3.10-49, 3.10-50, 3.10-51, 3.10-51
Groundwater .....	ES-15, ES-16, ES-53, ES-56, 1-20, 1-22, 1-23, 1-24, 3.1-29, 3.1-33, 3.1-34, 3.4-7, 3.4-17, 3.4-29, 3.4-32, 3.4-33, 3.5-11, 3.5-14, 3.5-15, 3.7-4, 3.13-6, 3.13-7, 3.13-11, 3.13-12, 3.13-13, 3.13-14, 3.13-15, 3.13-20, 3.13-21, 3.13-27, 3.15-35, 5-4, 5-6, 5-10, 5-16, 5-19

Groundwater extraction and treatment (GET).....	1-18, 3.5-8, 3.5-11, 3.13-7, 3.13-9, 3.13-11, 3.13-13, 3.13-15, 3.13-28
Habitat Conservation Plan (HCP) .....	1-18
Hazardous and Solid Waste Amendments of 1984 (HSWA) .....	1-18, 3.13-17
Hazardous materials .....	ES-5, ES-14, ES-55, ES-57, 1-7, 1-8, 2-69, 3.1-5, 3.1-6, 3.1-7, 3.1-28, 3.1-33, 3.4-25, 3.13-1, 3.13-17, 3.13-18, 3.13-19, 3.13-23, 3.13-24, 3.13-29, 3.13-30
Hazardous materials transportation .....	3.13-18
Hazardous waste.....	ES-14, 3.1-6, 3.1-28, 3.1-33, 3.4-25, 3.13-1, 3.13-10, 3.13-16, 3.13-18
High Density Alternative (HD) .....	ES-3, ES-7, ES-8, ES-9, ES-10, ES-11, ES-12, ES-13, ES-14, ES-15, ES-16, ES-17, ES-18, ES-19, ES-20, ES-21, ES-22, ES-23, ES-24, ES-25, ES-26, ES-27, ES-28, ES-29, ES-29, ES-30, ES-31, ES-32, ES-33, ES-34, ES-36, ES-37, ES-38, ES-39, ES-40, ES-42, ES-43, ES-44, ES-45, ES-46, ES-47, ES-48, ES-49, ES-50, ES-51, ES-52, ES-53, ES-54, ES-55, ES-56, ES-57, ES-58, ES-58, ES-61, ES-62, ES-63, ES-64, ES-65, ES-66, ES-67, ES-68, ES-69, ES-70, ES-71, ES-72, ES-73, ES-74, ES-75, ES-76, ES-77, ES-78, ES-79, ES-80, ES-81, ES-82, ES-83, ES-84, ES-85, ES-86, ES-88, ES-89, ES-90, ES-91, ES-92, ES-93, ES-94, ES-95, ES-96, ES-97, ES-98, ES-99, ES-100, ES-101, ES-102, ES-103, ES-104, ES-105, ES-106, ES-107, ES-108, ES-110, ES-113, ES-114, ES-115, ES-116, ES-117, ES-118, ES-119, ES-120, ES-121, ES-122, ES-124, ES-125, 1-18, 3-4, 3.1-23, 3.1-24, 3.1-25, 3.1-27, 3.1-31, 3.1-32, 3.1-36, 3.2-7, 3.2-9, 3.2-10, 3.2-12, 13, 3.3-4, 3.3-6, 3.4-17, 3.4-19, 3.4-21, 3.4-22, 3.4-23, 3.4-24, 3.4-27, 3.4-30, 3.5-8, 3.5-10, 3.5-11, 3.5-16, 3.5-17, 3.5-19, 3.5-20, 3.5-24, 3.5-25, 3.5-26, 3.5-29, 3.5-30, 3.5-31, 3.5-32, 3.5-36, 3.5-37, 3.6-7, 3.6-8, 3.6-9, 3.6-10, 3.6-11, 3.6-12, 3.6-14, 3.6-16, 3.6-18, 3.6-20, 3.6-22, 3.6-24, 3.7-17, 3.7-18, 3.7-19, 3.7-20, 3.7-21, 3.8-6, 3.9-12, 3.9-13, 3.9-14, 3.9-15, 3.9-16, 3.9-17, 3.9-18, 3.10-22, 3.10-29, 3.10-31, 3.10-32, 3.10-36, 3.10-38, 3.10-39, 3.10-43, 3.10-45, 3.10-46, 3.10-47, 3.10-49, 3.10-50, 3.11-11, 3.11-12, 3.11-13, 3.11-14, 3.11-15, 3.11-16, 3.11-17, 3.11-18, 3.11-19, 3.11-21, 3.12-8, 3.12-10, 3.12-11, 3.12-12, 3.13-20, 3.13-21, 3.13-22, 3.13-23, 3.13-24, 3.13-25, 3.13-26, 3.13-27, 3.13-28, 3.14-30, 3.14-31, 3.14-32, 3.14-51, 3.14-52, 3.14-53, 3.14-54, 3.14-55, 3.14-56, 3.14-57, 3.14-58, 3.14-59, 3.14-60, 3.14-61, 3.14-62, 3.14-63, 3.14-64, 3.14-65, 3.14-66, 3.14-67, 3.14-68, 3.14-69, 3.14-70, 3.14-71, 3.14-72, 3.14-73, 3.14-74, 3.14-75, 3.14-76, 3.14-77, 3.14-78, 3.14-79, 3.14-97, 3.14-98, 3.14-99, 3.14-100, 3.14-101, 3.14-102, 3.14-103, 3.14-104, 3.14-105, 3.14-106, 3.14-107, 3.14-108,

	3.14-109, 3.14-110, 3.14-111, 3.14-112, 3.14-113, 3.14-114, 3.14-115, 3.14-116, 3.14-117, 3.14-118, 3.14-119, 3.14-120, 3.14-121, 3.15-20, 3.15-21, 3.15-22, 3.15-25, 3.15-26, 3.15-27, 3.15-32, 3.15-33, 3.15-34, 3.15-35, 3.15-36, 3.15-39, 3.15-44, 3.15-47, 3.16-15, 3.16-17, 3.16-18, 3.16-20, 3.16-22, 3.16-27, 3.16-30, 3.16-32, 3.16-37
High Density Residential (HDR).....	1-18, 17, 3.1-19
Historic American Building Survey (HABS).....	ES-32, 1-18, 3.9-14, 3.9-15, 3.9-20
Housing, housing demand .....	ES-10, ES-11, ES-83, 1-18, 1-22, 2-84, 3.1-10, 14, 3.2-1, 3.2-2, 3.2-3, 3.2-4, 3.2-7, 3.2-11, 3.2-16, 3.12-8, 3.14-75, 3.15-37, 3.15-49, 3.16-10, 4-2, 4-16, 5-4, 5-5, 5-21, 5-22, 6-1
Hydrology.....	ES-4, ES-5, ES-36, ES-38, ES-46, 1-7, 1-8, 2-84, 3.4-1, 3.4-16, 3.4-17, 3.4-20, 3.4-21, 3.4-26, 3.4-27, 3.4-28, 3.4-32, 3.5-24, 3.5-44, 3.10-2, 3.10-5, 3.10-17, 3.10-22, 3.10-25, 3.10-31, 3.10-32, 3.10-34, 3.10-37, 3.10-49, 3.10-50
Impact Minimization Alternative (IM).....	ES-3, ES-7, ES-8, ES-9, ES-10, ES-11, ES-12, ES-13, ES-14, ES-15, ES-16, ES-17, ES-18, ES-19, ES-20, ES-21, ES-22, ES-23, ES-24, ES-25, ES-26, ES-27, ES-28, ES-29, ES-29, ES-30, ES-31, ES-32, ES-33, ES-34, ES-36, ES-37, ES-38, ES-39, ES-40, ES-42, ES-43, ES-44, ES-45, ES-46, ES-47, ES-48, ES-49, ES-50, ES-51, ES-52, ES-53, ES-54, ES-55, ES-56, ES-57, ES-58, ES-58, ES-61, ES-62, ES-63, ES-64, ES-65, ES-66, ES-67, ES-68, ES-69, ES-70, ES-71, ES-72, ES-73, ES-74, ES-75, ES-76, ES-77, ES-78, ES-79, ES-80, ES-81, ES-82, ES-83, ES-84, ES-85, ES-86, ES-88, ES-89, ES-90, ES-91, ES-92, ES-93, ES-94, ES-95, ES-96, ES-97, ES-98, ES-99, ES-100, ES-101, ES-102, ES-103, ES-104, ES-105, ES-106, ES-107, ES-108, ES-110, ES-113, ES-114, ES-115, ES-116, ES-117, ES-118, ES-119, ES-120, ES-121, ES-122, ES-124, ES-125, 1-18, 3-4, 3.1-23, 3.1-24, 3.1-25, 3.1-26, 3.1-27, 3.1-31, 3.1-32, 3.1-36, 3.2-7, 3.2-9, 3.2-10, 13, 3.2-14, 3.3-4, 3.3-6, 3.4-17, 3.4-20, 3.4-21, 3.4-22, 3.4-24, 3.4-28, 3.4-30, 3.5-8, 3.5-10, 3.5-11, 3.5-16, 3.5-17, 3.5-19, 3.5-20, 3.5-24, 3.5-25, 3.5-27, 3.5-29, 3.5-30, 3.5-31, 3.5-32, 3.5-36, 3.5-38, 3.6-7, 3.6-8, 3.6-9, 3.6-10, 3.6-11, 3.6-12, 3.6-14, 3.6-16, 3.6-18, 3.6-20, 3.6-22, 3.6-24, 3.7-17, 3.7-18, 3.7-19, 3.7-20, 3.7-21, 3.8-6, 3.9-5, 3.9-12, 3.9-13, 3.9-14, 3.9-15, 3.9-16, 3.9-17, 3.9-18, 3.10-22, 3.10-27, 3.10-29, 3.10-31, 3.10-34, 3.10-36, 3.10-38, 3.10-42, 3.10-43, 3.10-45, 3.10-46, 3.10-47, 3.10-50, 3.11-11, 3.11-12, 3.11-14, 3.11-15, 3.11-16, 3.11-17, 3.11-18, 3.11-19, 3.11-21, 3.12-8, 3.12-10, 3.12-11, 3.12-12, 3.13-20, 3.13-21, 3.13-22, 3.13-23, 3.13-24, 3.13-25, 3.13-26, 3.13-27, 3.13-28, 3.14-30, 3.14-31, 3.14-32,

	3.14-51, 3.14-52, 3.14-53, 3.14-54, 3.14-55, 3.14-56, 3.14-57, 3.14-58, 3.14-59, 3.14-60, 3.14-61, 3.14-62, 3.14-63, 3.14-64, 3.14-65, 3.14-66, 3.14-67, 3.14-68, 3.14-69, 3.14-70, 3.14-71, 3.14-72, 3.14-73, 3.14-74, 3.14-75, 3.14-76, 3.14-77, 3.14-78, 3.14-79, 3.14-98, 3.14-99, 3.14-100, 3.14-101, 3.14-102, 3.14-103, 3.14-104, 3.14-105, 3.14-106, 3.14-107, 3.14-108, 3.14-109, 3.14-110, 3.14-112, 3.14-113, 3.14-114, 3.14-115, 3.14-116, 3.14-117, 3.14-118, 3.14-119, 3.14-121, 3.15-20, 3.15-21, 3.15-22, 3.15-26, 3.15-28, 3.15-32, 3.15-33, 3.15-34, 3.15-35, 3.15-36, 3.15-40, 3.15-44, 3.15-48, 3.16-15, 3.16-17, 3.16-18, 3.16-20, 3.16-22, 3.16-27, 3.16-30, 3.16-32, 3.16-37
Important Farmland .....	3.1-2, 3.1-8, 3.1-22, 3.1-23, 3.1-37, 5-3
Inactive Rancho Cordova Test Site (IRCTS) .....	1-19, 3.1-28, 3.1-29, 3.1-30, 3.1-33, 3.1-34, 3.13-1, 3.13-2, 3.13-5, 3.13-6, 3.13-7, 3.13-10, 3.13-11, 3.13-12, 3.13-13, 3.13-18, 3.13-19, 3.13-20, 3.13-27, 3.15-35, 5-4, 5-16, 5-19
Increased Preserve/No Regional	
Town Center Alternative .....	2-2, 2-64, 2-81
Integrated Waste Management Plan (IWMP) .....	1-19
Interim water supply .....	3.5-45
International Drive Realignment .....	ES-73, 3.14-64, 3.14-121
Interior live oak ( <i>Quercus wislizenii</i> ) .....	3.10-2, 3.10-5
Italian thistle ( <i>Carduus pycnocephalus</i> ) .....	3.10-2
Jobs/housing balance .....	3.2-2, 3.2-3, 3.2-5, 3.2-6, 3.2-15, 3.2-16, 4-2, 4-16, 4-17
Laguna Formation .....	ES-40, 1-24, 3.4-7, 3.7-1, 3.7-5, 3.8-1, 3.8-2, 3.8-3, 3.8-4, 3.8-6, 3.10-43, 3.10-51
Lead-based paint.....	ES-54, 3.13-6, 3.13-23
Level of Service (LOS) .....	ES-58, ES-61, ES-62, ES-63, ES-64, ES-65, ES-66, ES-67, ES-68, ES-69, ES-70, ES-71, ES-72, ES-73, ES-74, ES-75, ES-76, ES-77, ES-77, ES-78, ES-79, ES-80, ES-81, ES-82, ES-86, ES-88, ES-89, ES-90, ES-91, ES-92, ES-93, ES-94, ES-95, ES-96, ES-97, ES-98, ES-99, ES-100, ES-101, ES-102, ES-103, ES-104, ES-105, ES-106, ES-107, ES-108, ES-109, ES-110, 1-19, 3.14-8, 3.14-13, 3.14-14, 3.14-15, 3.14-16, 3.14-18, 3.14-19, 3.14-20, 3.14-22, 3.14-23, 3.14-24, 3.14-25, 3.14-31, 3.14-43, 3.14-45, 3.14-47, 3.14-50, 3.14-51, 3.14-52, 3.14-53, 3.14-54, 3.14-55, 3.14-56, 3.14-57, 3.14-58, 3.14-59, 3.14-60, 3.14-61, 3.14-62, 3.14-63, 3.14-64, 3.14-65, 3.14-66, 3.14-67, 3.14-68, 3.14-69, 3.14-70, 3.14-71, 3.14-72, 3.14-73, 3.14-74, 3.14-74, 3.14-79, 3.14-87, 3.14-89, 3.14-91, 3.14-93, 3.14-95, 3.14-97, 3.14-98, 3.14-99, 3.14-100, 3.14-101, 3.14-102, 3.14-103, 3.14-103, 3.14-104, 3.14-105, 3.14-106, 3.14-107, 3.14-108, 3.14-109, 3.14-110, 3.14-111, 3.14-112, 3.14-113, 3.14-114,

	3.14-115, 3.14-116, 3.14-117, 3.14-118, 3.14-119, 3.14-120, 3.14-121, 3.15-27, 3.15-46, 3.15-49
Local Agency Formation Commission (LAFCo).....	ES-7, ES-8, 1-9, 3.1-3, 14, 3.1-23, 3.1-27
Loggerhead shrike ( <i>Lanius ludovicianus</i> ) .....	3.10-10
Longhorn fairy shrimp ( <i>Branchinecta longiantenna</i> ) .....	3.10-11
Mather Airport.....	ES-5, ES-7, ES-8, ES-123, ES-124, 1-19, 2-4, 2-16, 2-69, 2-70, 2-81, 3.1-2, 13, 14, 3.1-22, 3.1-24, 3.1-27, 3.1-28, 3.1-32, 3.3-1, 3.3-4, 3.3-9, 3.9-3, 3.13-25, 3.15-30, 3.15-49, 3.16-4, 3.16-5, 3.16-6, 3.16-7, 3.16-10, 3.16-11, 3.16-12, 3.16-13, 3.16-28, 3.16-30, 3.16-30, 3.16-32, 3.16-32, 3.16-33, 3.16-34, 3.16-38, 3.16-39, 4-9, 4-10, 5-4, 5-12, 5-21
Mather Airport Comprehensive Land Use Plan (Airport Land Use Compatibility Plan).....	2-69, 2-70, 3.13-25
Mather Airport Policy Area (MAPA).....	ES-123, 1-19, 3.1-2, 13, 14, 3.1-24, 3.16-12, 3.16-13, 3.16-32
Mather Field .....	ES-62, ES-63, ES-65, ES-66, ES-68, ES-69, ES-70, ES-79, ES-81, ES-82, ES-90, ES-91, ES-92, ES-94, ES-103, ES-106, ES-109, ES-110, 1-14, 1-19, 2-72, 2-73, 2-82, 3.1-2, 3.3-1, 3.3-4, 3.3-6, 3.3-9, 3.4-4, 3.6-2, 3.9-2, 3.9-3, 3.13-5, 3.14-4, 3.14-5, 3.14-6, 3.14-7, 3.14-8, 3.14-13, 3.14-14, 3.14-15, 3.14-17, 3.14-43, 3.14-45, 3.14-47, 3.14-52, 3.14-53, 3.14-56, 3.14-57, 3.14-59, 3.14-60, 3.14-61, 3.14-71, 3.14-73, 3.14-74, 3.14-74, 3.14-87, 3.14-91, 3.14-93, 3.14-95, 3.14-100, 3.14-101, 3.14-102, 3.14-104, 3.14-114, 3.14-117, 3.14-120, 3.14-121, 3.16-8, 3.16-13, 3.16-25, 3.16-36, 4-10, 4-21, 4-22, 4-23, 5-5
Mather Field Specific Plan .....	ES-62, ES-63, ES-68, 3.14-17, 3.14-53, 3.14-53, 3.14-59
McDonnell Douglas Corporation (MDC).....	ES-53, 1-2, 1-20, 3.4-30, 3.4-30, 3.4-31, 3.5-1, 3.5-11, 3.5-14, 3.9-3, 3.9-5, 3.9-6, 3.13-1, 3.13-2, 3.13-5, 3.13-6, 3.13-7, 3.13-8, 3.13-9, 3.13-10, 3.13-18, 3.13-19, 3.13-20, 3.13-21, 3.13-28
Measure A .....	ES-62, ES-63, ES-79, 3.14-16, 3.14-17, 3.14-52, 3.14-53, 3.14-71
Medusa head ( <i>Taeniatherum caput-medusae</i> ).....	3.10-2
Merlin ( <i>Falco columbarius</i> ) .....	3.10-10
Metropolitan Transportation Plan for 2025 (MTP 2025).....	1-20, 3.14-1, 3.14-2, 3.14-16, 3.14-25, 3.14-26, 3.14-30, 4-14
Midvalley fairy shrimp ( <i>Branchinecta mesovallensis</i> ).....	3.10-14
Migratory Bird Treaty Act (MBTA) .....	1-19, 3.10-18
Mineral Resource Zone (MRZ) .....	ES-29, ES-30, 1-20, 3.7-14, 3.7-21, 3.7-23
Mining, mining operations .....	ES-4, ES-8, ES-9, ES-28, ES-48, ES-51, ES-55, ES-56, ES-57, ES-114, ES-122, ES-123, ES-125, 1-2, 1-3, 2-4, 2-16, 2-57, 2-64, 2-67, 2-69, 2-70, 3-2, 3-3, 3-4, 3-6, 3.1-1, 3.1-2, 14, 17, 3.1-22, 3.1-23, 3.1-24, 3.1-26, 3.1-27, 3.1-28, 3.1-29, 3.1-30, 3.1-31, 3.1-31, 3.1-32,

	3.1-33, 3.1-34, 3.1-35, 3.1-36, 3.1-36, 3.2-8, 3.2-11, 3.2-15, 3.3-4, 3.3-6, 3.4-3, 3.4-7, 3.4-20, 3.4-23, 3.4-24, 3.4-29, 3.4-31, 3.4-32, 3.5-10, 3.5-16, 3.5-17, 3.5-19, 3.5-24, 3.5-25, 3.5-28, 3.5-29, 3.5-30, 3.5-31, 3.5-35, 3.5-36, 3.5-39, 3.6-7, 3.6-10, 3.6-11, 3.6-13, 3.6-15, 3.6-17, 3.6-19, 3.6-21, 3.6-23, 3.6-25, 3.7-1, 3.7-5, 3.7-13, 3.7-14, 3.7-16, 3.7-18, 3.7-19, 3.7-20, 3.7-21, 3.7-22, 3.7-23, 3.8-2, 3.8-4, 3.8-6, 3.9-3, 3.9-13, 3.9-14, 3.9-15, 3.9-17, 3.9-18, 3.9-19, 3.10-1, 3.10-17, 3.10-28, 3.10-33, 3.10-36, 3.10-38, 3.10-43, 3.10-50, 3.11-1, 3.11-8, 3.11-9, 3.11-11, 3.11-12, 3.11-13, 3.11-14, 3.11-15, 3.11-16, 3.11-17, 3.11-17, 3.11-18, 3.11-20, 3.11-21, 3.11-22, 3.12-10, 3.12-13, 3.13-5, 3.13-6, 3.13-8, 3.13-20, 3.13-21, 3.13-23, 3.13-24, 3.13-25, 3.13-25, 3.13-26, 3.13-26, 3.13-27, 3.13-28, 3.13-29, 3.14-32, 3.14-75, 3.14-76, 3.14-79, 3.15-21, 3.15-22, 3.15-26, 3.15-28, 3.15-31, 3.15-32, 3.15-33, 3.15-34, 3.15-36, 3.15-37, 3.15-38, 3.15-40, 3.15-41, 3.15-42, 3.15-45, 3.15-48, 3.15-49, 3.16-16, 3.16-20, 3.16-24, 3.16-27, 3.16-28, 3.16-29, 3.16-30, 3.16-30, 3.16-31, 3.16-32, 3.16-34, 3.16-37, 3.16-39, 4-20, 4-26
Mine and dredge Tailings (t) .....	1-24
Mitigation Monitoring Plan (MMP) .....	1-20, 2-25
Mitigation Monitoring and Reporting Plan (MMRP) .....	ES-111, 1-20, 3-6, 3-7, 3.15-22
Morrison Creek .....	ES-14, ES-37, ES-37, ES-38, 1-17, 2-16, 2-21, 2-22, 2-51, 2-52, 2-55, 2-56, 2-57, 2-80, 3.1-30, 3.1-32, 3.1-35, 3.4-1, 3.4-3, 3.4-4, 3.4-8, 3.4-11, 3.4-17, 3.4-21, 3.4-22, 3.4-23, 3.4-26, 3.4-33, 3.7-1, 3.7-12, 3.7-13, 3.8-2, 3.8-4, 3.10-1, 3.10-2, 3.10-12, 3.10-14, 3.10-21, 3.10-22, 3.10-25, 3.10-28, 3.10-31, 3.10-33, 3.10-36, 3.10-37, 3.10-49, 5-6, 5-7
Narrow tarplant ( <i>Holocarpha virgata</i> ) .....	3.10-2
National Ambient Air Quality Standards (NAAQS) .....	ES-110, ES-113, ES-116, ES-117, 1-20, 3.15-2, 3.15-5, 3.15-7, 3.15-12, 3.15-18, 3.15-20, 3.15-21, 3.15-24, 3.15-25, 3.15-38, 3.15-39, 3.15-40, 3.15-41, 3.15-42, 3.15-43, 3.15-50
National Historic Preservation Act (NHPA) .....	1-10, 1-21, 3.9-8, 3.9-9, 3.9-11, 3.9-12
National Marine Fisheries Service (NMFS) .....	1-21, 3.10-17
National Pollutant Discharge Elimination System (NPDES) .....	ES-13, ES-27, ES-35, ES-37, 1-10, 1-21, 3.4-12, 3.4-13, 3.4-14, 3.4-15, 3.4-16, 3.4-24, 3.4-27, 3.4-33, 3.5-4, 3.5-12, 3.7-18, 3.7-23, 3.10-30, 3.10-31
National Priorities List (NPL) .....	1-21, 3.1-34, 3.13-5, 3.13-11, 3.13-18
National Register of Historic Places (NRHP) .....	1-21, 3.9-3, 3.9-5, 3.9-6, 3.9-8, 3.9-9, 3.9-11, 3.9-13, 3.9-15, 3.9-20, 4-11, 4-25, 5-13
Native American Heritage Commission (NAHC) .....	ES-32, ES-34, 1-9, 1-20, 3.9-3, 3.9-11, 3.9-16, 3.9-18
Natural Resources Conservation Service (NRCS) .....	1-21, 1-23, 3.1-8, 3.4-31, 3.7-5, 3.7-6, 3.7-11, 5-6, 5-10
Nitrogen dioxide (NO <sub>2</sub> ) .....	1-21, 3.15-2, 3.15-3, 3.15-5, 3.15-6

Noise, noise contours.....	ES-55, ES-119, ES-120, ES-121, ES-122, ES-123, ES-124, ES-125, 1-8, 1-21, 2-70, 2-71, 2-81, 2-84, 3.1-13, 3.1-24, 3.1-28, 3.1-32, 3.11-16, 3.11-17, 3.11-21, 3.13-19, 3.13-26, 3.16-1, 3.16-2, 3.16-3, 3.16-4, 3.16-5, 3.16-6, 3.16-7, 3.16-8, 3.16-9, 3.16-10, 3.16-11, 3.16-12, 3.16-13, 3.16-14, 3.16-15, 3.16-16, 3.16-16, 3.16-17, 3.16-18, 3.16-19, 3.16-20, 3.16-22, 3.16-23, 3.16-24, 3.16-24, 3.16-25, 3.16-26, 3.16-27, 3.16-28, 3.16-29, 3.16-30, 3.16-31, 3.16-32, 3.16-33, 3.16-34, 3.16-34, 3.16-35, 3.16-36, 3.16-37, 3.16-38, 4-12, 4-24, 4-28, 5-20, 5-21, 6-1, 6-3
No Federal Action Alternative (NF).....	ES-3, ES-4, ES-7, ES-8, ES-9, ES-10, ES-11, ES-12, ES-13, ES-14, ES-15, ES-16, ES-17, ES-18, ES-19, ES-20, ES-21, ES-22, ES-23, ES-24, ES-25, ES-26, ES-27, ES-28, ES-29, ES-29, ES-30, ES-31, ES-32, ES-33, ES-36, ES-38, ES-39, ES-39, ES-41, ES-42, ES-43, ES-44, ES-46, ES-46, ES-47, ES-48, ES-49, ES-50, ES-51, ES-52, ES-53, ES-54, ES-55, ES-56, ES-57, ES-58, ES-85, ES-110, ES-113, ES-114, ES-115, ES-116, ES-117, ES-118, ES-119, ES-120, ES-121, ES-122, ES-124, ES-125, 1-20, 2-1, 2-2, 2-64, 2-65, 2-83, 3-4, 3.1-23, 3.1-24, 3.1-25, 3.1-26, 3.1-27, 3.1-31, 3.1-32, 3.1-36, 3.2-7, 3.2-9, 3.2-11, 3.2-13, 3.2-14, 3.3-4, 3.3-6, 3.4-17, 3.4-20, 3.4-21, 3.4-23, 3.4-24, 3.4-28, 3.4-29, 3.4-30, 3.4-31, 3.5-8, 3.5-9, 3.5-10, 3.5-11, 3.5-14, 3.5-16, 3.5-18, 3.5-19, 3.5-22, 3.5-23, 3.5-24, 3.5-25, 3.5-27, 3.5-29, 3.5-30, 3.5-31, 3.5-34, 3.5-35, 3.5-36, 3.5-38, 3.6-7, 3.6-8, 3.6-9, 3.6-10, 3.6-11, 3.6-12, 3.6-14, 3.6-17, 3.6-19, 3.6-20, 3.6-22, 3.6-24, 3.6-25, 3.7-17, 3.7-18, 3.7-19, 3.7-20, 3.7-21, 3.8-6, 3.9-12, 3.9-13, 3.9-14, 3.9-15, 3.9-16, 3.9-17, 3.9-18, 3.10-22, 3.10-28, 3.10-31, 3.10-32, 3.10-35, 3.10-36, 3.10-37, 3.10-38, 3.10-42, 3.10-44, 3.10-45, 3.10-46, 3.10-47, 3.10-50, 3.10-51, 3.11-11, 3.11-12, 3.11-14, 3.11-15, 3.11-16, 3.11-18, 3.11-19, 3.11-22, 3.12-8, 3.12-10, 3.12-11, 3.12-13, 3.13-20, 3.13-21, 3.13-22, 3.13-23, 3.13-24, 3.13-25, 3.13-26, 3.13-27, 3.13-28, 3.14-30, 3.14-31, 3.14-78, 3.15-20, 3.15-22, 3.15-26, 3.15-28, 3.15-32, 3.15-33, 3.15-34, 3.15-35, 3.15-36, 3.15-42, 3.15-45, 3.15-48, 3.16-15, 3.16-17, 3.16-18, 3.16-20, 3.16-22, 3.16-27, 3.16-30, 3.16-32, 3.16-37, 4-13, 4-15, 4-17, 4-19, 4-20, 5-3
No Project Alternative (NP).....	ES-3, ES-4, ES-7, ES-8, ES-9, ES-10, ES-10, ES-11, ES-12, ES-13, ES-13, ES-14, ES-15, ES-15, ES-16, ES-16, ES-17, ES-17, ES-18, ES-19, ES-20, ES-21, ES-22, ES-22, ES-23, ES-24, ES-24, ES-25, ES-26, ES-27, ES-28, ES-28, ES-29, ES-29, ES-30, ES-31, ES-32, ES-33, ES-33, ES-34, ES-36, ES-37, ES-38, ES-39, ES-40, ES-42, ES-43, ES-44, ES-45, ES-46, ES-46, ES-47, ES-48, ES-49, ES-50, ES-51, ES-52, ES-53, ES-54, ES-54, ES-55, ES-56, ES-56, ES-57, ES-58, ES-80, ES-83, ES-84, ES-85, ES-86, ES-87,

ES-88, ES-113, ES-113, ES-114, ES-115, ES-116, ES-117, ES-118, ES-120, ES-121, ES-122, ES-122, ES-124, ES-124, ES-125, 1-6, 1-21, 2-2, 2-57, 2-64, 2-67, 2-69, 2-72, 2-83, 3-3, 3-4, 3-7, 3.1-23, 3.1-24, 3.1-26, 3.1-27, 3.1-31, 3.1-32, 3.1-36, 3.1-37, 3.2-7, 3.2-8, 3.2-11, 3.2-15, 3.3-4, 3.3-6, 3.3-7, 3.4-17, 3.4-20, 3.4-21, 3.4-23, 3.4-24, 3.4-25, 3.4-29, 3.4-31, 3.5-8, 3.5-10, 3.5-11, 3.5-16, 3.5-17, 3.5-19, 3.5-24, 3.5-25, 3.5-28, 3.5-29, 3.5-30, 3.5-31, 3.5-35, 3.5-36, 3.5-39, 3.6-7, 3.6-8, 3.6-10, 3.6-11, 3.6-13, 3.6-15, 3.6-17, 3.6-19, 3.6-21, 3.6-23, 3.6-25, 3.7-9, 3.7-11, 3.7-17, 3.7-18, 3.7-19, 3.7-20, 3.7-22, 3.8-6, 3.9-12, 3.9-13, 3.9-14, 3.9-15, 3.9-16, 3.9-17, 3.9-18, 3.9-19, 3.10-22, 3.10-28, 3.10-31, 3.10-32, 3.10-36, 3.10-37, 3.10-38, 3.10-39, 3.10-43, 3.10-45, 3.10-46, 3.10-47, 3.10-48, 3.10-50, 3.10-51, 3.11-11, 3.11-12, 3.11-14, 3.11-15, 3.11-16, 3.11-17, 3.11-18, 3.11-19, 3.11-20, 3.11-22, 3.12-8, 3.12-10, 3.12-11, 3.12-13, 3.13-20, 3.13-21, 3.13-22, 3.13-23, 3.13-24, 3.13-25, 3.13-26, 3.13-27, 3.13-28, 3.14-30, 3.14-31, 3.14-32, 3.14-43, 3.14-45, 3.14-47, 3.14-50, 3.14-75, 3.14-76, 3.14-78, 3.14-79, 3.14-87, 3.14-89, 3.14-91, 3.14-93, 3.14-95, 3.14-97, 3.14-98, 3.15-20, 3.15-22, 3.15-24, 3.15-26, 3.15-28, 3.15-32, 3.15-33, 3.15-34, 3.15-35, 3.15-36, 3.15-37, 3.15-42, 3.15-45, 3.15-46, 3.15-48, 3.16-15, 3.16-16, 3.16-17, 3.16-20, 3.16-22, 3.16-24, 3.16-27, 3.16-28, 3.16-30, 3.16-32, 3.16-34, 3.16-37, 4-19, 4-20

No Project/No Action Alternative—see No

Project Alternative.....	2-1, 2-72
Northern California black walnut ( <i>Juglans hindsii</i> ).....	3.10-7, 3.10-8, 3.10-12
Northern harrier ( <i>Circus cyaneus</i> ).....	3.10-10, 3.10-13
Northwestern pond turtle ( <i>Clemmys marmorata marmorata</i> ).....	3.10-10, 3.10-13
Notice of intent (NOI).....	ES-5, 1-7, 1-10, 1-21, 2-1, 3-2
Notice of preparation (NOP).....	ES-5, 1-7, 1-21, 2-1, 2-64, 2-67, 3-1, 3-2, 3-3, 3-4, 3-6, 3.14-21

Occupational Safety and Health

Administration (OSHA).....	ES-54, 1-15, 1-21, 3.13-6, 3.13-17, 3.13-23
OES.....	1-21, 3.13-17
Off-site alternatives.....	2-2
Off-site infrastructure.....	ES-16, ES-18, 2-26, 3.5-10, 3.5-19
Operable Unit (OU).....	1-21, 1-24, 3.13-6, 3.13-7, 3.13-10, 3.13-11, 3.13-20, 3.13-28, 5-16
Oxides of nitrogen (NO <sub>x</sub> ).....	ES-110, ES-111, ES-112, ES-113, ES-116, ES-117, 1-21, 3.1-29, 3.1-34, 3.5-22, 3.5-24, 3.5-36, 3.5-42, 3.5-44, 3.15-1, 3.15-2, 3.15-6, 3.15-10, 3.15-15, 3.15-18, 3.15-19, 3.15-20, 3.15-21, 3.15-22, 3.15-23, 3.15-24, 3.15-25, 3.15-26, 3.15-38, 3.15-39, 3.15-39, 3.15-40,

	3.15-41, 3.15-42, 3.15-43, 3.15-44, 3.15-45, 3.15-46, 3.15-50, 4-12, 4-24, 4-27
Ozone.....	ES-110, ES-116, 1-21, 3.14-30, 3.15-1, 3.15-2, 3.15-5, 3.15-6, 3.15-8, 3.15-9, 3.15-15, 3.15-16, 3.15-18, 3.15-19, 3.15-20, 3.15-21, 3.15-24, 3.15-36, 3.15-38, 4-14
Pacific Gas and Electric Company (PG&E).....	1-22, 2-41, 2-54, 3.1-28, 3.5-5, 3.1-33, 3.5-5, 3.5-7, 3.5-29, 3.5-30, 3.5-30, 3.5-40, 3.5-45
Pacific willow ( <i>Salix lucida</i> ssp. <i>lasiandra</i> ).....	3.10-6
Parkland.....	ES-52, 3.12-2, 3.12-6, 3.12-7, 3.12-8, 3.12-9, 3.12-10, 3.12-10, 3.12-11, 3.12-11, 3.12-12, 3.12-13, 5-16
Particulate matter less than or equal to 10 microns in diameter (PM <sub>10</sub> ) .....	ES-110, ES-113, ES-116, ES-117, 1-22, 2-71, 1-22, 2-69, 2-71, 3.1-29, 3.1-34, 3.15-2, 3.15-3, 3.15-5, 3.15-7, 3.15-8, 3.15-9, 3.15-15, 3.15-18, 3.15-19, 3.15-20, 3.15-21, 3.15-22, 3.15-24, 3.15-26, 3.15-27, 3.15-38, 3.15-39, 3.15-40, 3.15-40, 3.15-41, 3.15-42, 3.15-43, 3.15-44, 3.15-45, 3.15-45, 3.15-46, 3.15-50, 4-12, 4-24, 4-27
Perchloroethylene (PCE).....	ES-115, 1-21, 1-22, 3.1-29, 3.1-34, 3.13-7, 3.15-9, 3.13-12, 3.13-13, 3.15-32, 3.15-33, 3.15-35
Pincushion navarretia ( <i>Navarretia meyersii</i> ssp. <i>Meyersii</i> ) .....	3.10-8
Polychlorinated biphenyl (PCB).....	1-21, 3.1-28, 3.1-33, 3.13-5, 3.13-7, 3.13-8
Population, population growth .....	ES-5, ES-11, ES-45, ES-46, 1-7, 2-58, 2-85, 3-1, 3-4, 3.1-9, 3.1-18, 3.2-1, 3.2-3, 3.2-5, 3.2-6, 3.2-7, 3.2-8, 3.2-10, 3.2-11, 3.2-12, 3.2-14, 3.2-15, 3.2-16, 3.2-17, 3.3-3, 3.3-4, 3.3-6, 3.3-7, 3.3-9, 3.4-12, 3.5-4, 3.5-24, 3.5-26, 3.5-27, 3.5-36, 3.5-37, 3.5-38, 3.5-44, 3.6-8, 3.6-9, 3.6-11, 3.6-12, 3.6-18, 3.6-19, 3.6-20, 3.9-1, 3.10-7, 3.10-8, 3.10-19, 3.10-21, 3.10-39, 3.10-49, 3.10-50, 3.10-51, 3.12-6, 3.12-8, 3.12-9, 3.12-10, 3.12-11, 3.12-12, 3.12-13, 3.13-15, 3.15-10, 3.15-12, 3.15-19, 3.15-20, 3.15-27, 3.15-37, 3.15-44, 3.16-33, 4-2, 4-4, 4-10, 4-12, 4-14, 4-15, 4-16, 4-17, 4-18, 4-19, 4-25
Porter-Cologne Water Quality Control Act.....	3.4-14, 3.10-6, 3.10-19
Prairie falcon ( <i>Falco mexicanus</i> ).....	3.10-10
Programmatic analysis.....	1-6, 1-7, 2-15
Project-specific analysis .....	ES-9, ES-10, 3.1-4, 3.1-31, 3.1-36
Propellant burn area (PBA) .....	3.1-29, 3.1-34, 3.13-7, 3.13-8, 3.13-9, 3.13-11, 3.13-13
Proposed Project Alternative (PP).....	ES-3, ES-4, ES-5, ES-7, ES-8, ES-9, ES-10, ES-11, ES-12, ES-13, ES-14, ES-15, ES-16, ES-17, ES-18, ES-19, ES-20, ES-21, ES-22, ES-23, ES-24, ES-25, ES-26, ES-27, ES-28, ES-29, ES-29, ES-30, ES-31, ES-32, ES-33, ES-34, ES-36, ES-37, ES-38, ES-39,

ES-40, ES-42, ES-43, ES-44, ES-45, ES-46, ES-47, ES-48, ES-49, ES-50, ES-51, ES-52, ES-53, ES-54, ES-55, ES-56, ES-57, ES-58, ES-58, ES-61, ES-62, ES-63, ES-64, ES-65, ES-66, ES-67, ES-68, ES-69, ES-70, ES-71, ES-72, ES-73, ES-74, ES-75, ES-76, ES-77, ES-78, ES-79, ES-80, ES-81, ES-82, ES-83, ES-84, ES-85, ES-86, ES-88, ES-89, ES-90, ES-91, ES-92, ES-93, ES-94, ES-95, ES-96, ES-97, ES-98, ES-99, ES-100, ES-101, ES-102, ES-103, ES-104, ES-105, ES-106, ES-107, ES-110, ES-113, ES-114, ES-115, ES-116, ES-117, ES-118, ES-119, ES-120, ES-121, ES-122, ES-124, ES-125, 1-22, 2-8, 2-9, 2-57, 2-58, 2-63, 2-64, 2-79, 2-80, 2-81, 2-83, 2-85, 3-4, 3.1-23, 3.1-24, 3.1-25, 3.1-27, 3.1-30, 3.1-31, 3.1-32, 3.1-36, 3.2-7, 3.2-8, 3.2-9, 3.2-10, 3.2-11, 3.2-12, 3.2-13, 3.2-14, 3.2-15, 3.3-4, 3.3-6, 3.4-17, 3.4-18, 3.4-19, 3.4-20, 3.4-21, 3.4-22, 3.4-23, 3.4-24, 3.4-26, 3.4-27, 3.4-28, 3.4-29, 3.4-30, 3.5-8, 3.5-10, 3.5-11, 3.5-12, 3.5-14, 3.5-16, 3.5-17, 3.5-19, 3.5-20, 3.5-24, 3.5-25, 3.5-26, 3.5-27, 3.5-28, 3.5-29, 3.5-30, 3.5-31, 3.5-32, 3.5-36, 3.5-37, 3.5-38, 3.5-39, 3.6-7, 3.6-8, 3.6-9, 3.6-10, 3.6-11, 3.6-12, 3.6-13, 3.6-14, 3.6-15, 3.6-16, 3.6-17, 3.6-18, 3.6-19, 3.6-20, 3.6-21, 3.6-22, 3.6-23, 3.6-24, 3.6-25, 3.7-17, 3.7-18, 3.7-19, 3.7-20, 3.7-21, 3.8-6, 3.9-12, 3.9-13, 3.9-14, 3.9-15, 3.9-16, 3.9-17, 3.9-18, 3.10-22, 3.10-25, 3.10-26, 3.10-27, 3.10-29, 3.10-31, 3.10-32, 3.10-33, 3.10-34, 3.10-36, 3.10-38, 3.10-39, 3.10-41, 3.10-42, 3.10-43, 3.10-45, 3.10-46, 3.10-47, 3.10-49, 3.10-50, 3.11-11, 3.11-12, 3.11-13, 3.11-14, 3.11-15, 3.11-16, 3.11-17, 3.11-18, 3.11-19, 3.11-21, 3.11-22, 3.12-8, 3.12-9, 3.12-10, 3.12-11, 3.12-12, 3.12-13, 3.13-20, 3.13-21, 3.13-22, 3.13-23, 3.13-24, 3.13-25, 3.13-26, 3.13-27, 3.13-28, 3.14-30, 3.14-31, 3.14-32, 3.14-43, 3.14-45, 3.14-47, 3.14-51, 3.14-52, 3.14-53, 3.14-54, 3.14-55, 3.14-56, 3.14-57, 3.14-58, 3.14-59, 3.14-60, 3.14-61, 3.14-62, 3.14-63, 3.14-64, 3.14-65, 3.14-66, 3.14-67, 3.14-68, 3.14-69, 3.14-70, 3.14-71, 3.14-72, 3.14-73, 3.14-74, 3.14-75, 3.14-76, 3.14-77, 3.14-78, 3.14-79, 3.14-87, 3.14-89, 3.14-91, 3.14-93, 3.14-98, 3.14-99, 3.14-100, 3.14-101, 3.14-102, 3.14-103, 3.14-104, 3.14-105, 3.14-106, 3.14-107, 3.14-108, 3.14-109, 3.14-110, 3.14-111, 3.14-112, 3.14-113, 3.14-114, 3.14-115, 3.14-116, 3.14-117, 3.14-118, 3.14-119, 3.14-121, 3.15-20, 3.15-21, 3.15-22, 3.15-24, 3.15-25, 3.15-26, 3.15-27, 3.15-28, 3.15-32, 3.15-33, 3.15-34, 3.15-35, 3.15-36, 3.15-37, 3.15-38, 3.15-39, 3.15-40, 3.15-41, 3.15-42, 3.15-43, 3.15-44, 3.15-45, 3.15-46, 3.15-47, 3.15-48, 3.15-49, 3.16-15, 3.16-17, 3.16-18, 3.16-20, 3.16-22, 3.16-24, 3.16-27, 3.16-28, 3.16-30, 3.16-32, 3.16-35, 4-14, 4-15, 4-17, 4-19, 4-20

Quimby Act .....	3.12-7, 3.12-8, 5-16
Rancho Cordova General Plan (City General Plan) .....	ES-47, 1-3, 2-13, 3-3, 13, 15, 17, 3.2-1, 3.2-5, 3.4-16, 3.5-2, 3.5-7, 3.6-6, 3.7-4, 3.7-16, 3.9-11, 3.10-6, 3.10- 20, 3.12-6, 3.12-8, 3.13-18, 3.14-6, 3.14-16, 3.15-15, 3.16-11, 3.16-12, 4-2, 4-10, 4-13, 5-4, 5-5, 5-7, 5-13, 5-15, 5-21
Rancho Cordova Police Department .....	3.6-2, 3.6-11, 3.6-20
Reactive organic gas (ROG).....	3.15-1, 3.15-2, 3.15-7, 3.15-39, 3.15-40, 3.15-41, 4-12, 5-19
Realignment of International Drive— <i>see</i> International Drive realignment .....	ES-69, ES-70, 3.14-31, 3.14-60, 3.14-61
Recycled water .....	2-33, 3.5-1, 3.5-42
Red-tailed hawk ( <i>Buteo jamaicensis</i> ) .....	3.10-6, 3.10-41
Reduced Preserve Alternative .....	2-2, 2-80
Regional Water Quality Control Board (RWQCB).....	ES-2, ES-13, ES-14, ES-34, ES-35, ES-36, ES-53, ES-54, 1-9, 1-10, 1-22, 3.1-29, 3.1-30, 3.1-34, 3.4-8, 3.4-14, 3.4-15, 3.4-16, 3.4-24, 3.4-25, 3.4-27, 3.4-28, 3.4-29, 3.4-33, 3.5-4, 3.5-7, 3.10-14, 3.10-19, 3.10-25, 3.10-26, 3.10-27, 3.10-28, 3.10-29, 3.10-30, 3.10-31, 3.13-1, 3.13-5, 3.13-8, 3.13-9, 3.13-10, 3.13-15, 3.13-17, 3.13-18, 3.13-20, 3.13-21, 3.13-22, 3.13-28, 3.13-29
Remedial Action Plan (RAP) .....	1-22, 3.13-1, 3.13-2, 3.13-8, 3.13-9, 3.13-10, 3.13-11, 3.13-12, 3.13-13, 3.13-15
Remedial Investigation/Feasibility Study (RI/FS), remedial investigation (RI).....	1-22, 3.13-3, 3.13-9 3.13-12, 3.13-13, 3.13-20, 5-16
Residential .....	ES-2, ES-3, ES-4, ES-7, ES-8, ES-11, ES-14, ES-16, ES-24, ES-25, ES-26, ES-48, ES-49, ES-53, ES-55, ES-57, ES-115, ES-120, ES-121, ES-122, 1-1, 1-2, 1-4, 1-6, 2-4, 2-13, 2-15, 2-41, 2-42, 2-55, 2-56, 2-58, 2-63, 2-64, 2-73, 2-81, 2-83, 2-85, 3-1, 3.1-1, 3.1-2, 3.1-7, 13, 14, 17, 18, 3.1-19, 3.1-20, 3.1-22, 3.1-24, 3.1-25, 3.1-26, 3.1-27, 3.1-29, 3.1-30, 3.1-33, 3.1-35, 3.2-1, 3.2-2, 3.2-7, 3.2-8, 3.2-10, 3.2-11, 3.2-12, 3.2-14, 3.2-15, 3.2-16, 3.3-3, 3.4-11, 3.4-16, 3.4-19, 3.4-20, 3.4-23, 3.4-26, 3.4-27, 3.4-28, 3.4-32, 3.5-1, 3.5-3, 3.5-6, 3.5-7, 3.5-10, 3.5-26, 3.5-27, 3.5-29, 3.5-30, 3.5-37, 3.5-38, 3.5-40, 3.6-4, 3.6-5, 3.6-6, 3.6-9, 3.6-9, 3.6-10, 3.6-11, 3.6-12, 3.6-13, 3.6-14, 3.6-15, 3.6-18, 3.6-19, 3.6-20, 3.6-21, 3.6-22, 3.6-23, 3.6-24, 3.6-26, 3.7-4, 3.10-17, 3.10-42, 3.11-1, 3.11-9, 3.11-12, 3.11-15, 3.11-18, 3.11-19, 3.12-7, 3.12-10, 3.12-13, 3.13-6, 3.13-8, 3.13-9, 3.13-10, 3.13-20, 3.13-21, 3.13-24, 3.13-29, 3.14-67, 3.14-76, 3.15-9, 3.15-21, 3.15-21, 3.15-22, 3.15-25, 3.15-25, 3.15-28, 3.15-29, 3.15-33, 3.15-34, 3.15-35, 3.15-38, 3.15-44, 3.15-45, 3.15-49, 3.16-10, 3.16-11, 3.16-13, 3.16-14, 3.16-15, 3.16-18, 3.16-19, 3.16-20, 3.16-21, 3.16-22, 3.16-23, 3.16-29, 3.16-30, 3.16-33,

	3.16-34, 3.16-37, 3.16-37, 4-2, 4-4, 4-7, 4-8, 4-9, 4-10, 4-13, 4-16, 4-17
Resource Conservation and Recovery Act (RCRA).....	1-22, 3.13-16, 3.13-18
Respirable particulate matter (PM <sub>10</sub> ).....	1-22, 3.15-2, 3.15-43, 3.15-44, 3.15-45
Responsible agency .....	1-9, 3.14-24
Riparian habitat .....	ES-5, ES-37, ES-38, ES-39, ES-39, ES-45, ES-104, 2-22, 2-25, 2-79, 2-85, 3.10-1, 3.10-20, 3.10-21, 3.10-32, 3.10-33, 3.10-34, 3.10-35, 3.10-35, 3.10-36, 3.10-37, 3.10-37, 3.10-39, 3.10-49, 3.10-52, 3.14-115, 4-11, 4-26
Ripgut brome ( <i>Bromus diandrus</i> ).....	3.10-2
Rose clover ( <i>Trifolium hirtum</i> ).....	3.10-2
RWSP .....	1-22, 3.5-1, 3.5-14
Sacramento Area Council of Governments (SACOG).....	ES-7, ES-8, 1-3, 1-22, 2-1, 2-42, 2-57, 2-85, 3.1-9, 3.1-11, 13, 14, 3.1-24, 3.1-25, 3.1-26, 3.1-26, 3.1-27, 3.1-37, 3.1-38, 3.2-1, 3.2-2, 3.2-3, 3.2-4, 3.2-6, 3.14-1, 3.14-16, 3.14-25, 3.14-30, 3.16-10, 4-2, 4-4, 4-10, 4-13, 4-14, 5-4, 5-5, 5-18
Sacramento County Department of Regional Parks, Recreation, and Open Space (DPROS) .....	1-17
Sacramento County Grading Ordinance.....	3.7-16
Sacramento County Mobility Study .....	3.14-18
Sacramento County Water Agency (SCWA) .....	ES-18, ES-21, 1-23, ES-24, 1-9, 1-23, 2-26, 2-33, 3.5-1, 3.5-2, 3.5-6, 3.5-7, 3.5-8, 3.5-9, 3.5-11, 3.5-14, 3.5-15, 3.5-16, 3.5-17, 3.5-40, 3.5-42, 3.6-10, 3.12-13, 4-11, 4-15, 4-24, 5-6, 5-8, 5-22
Sacramento County Zoning Code .....	3.7-16
Sacramento Local Agency Formation Commission (LAFCO) .....	3.1-3
Sacramento Metropolitan Air Quality Management District (SMAQMD).....	ES-2, ES-59, ES-87, ES-110, ES-111, ES-112, ES-113, ES-113, ES-115, ES-116, ES-117, 1-10, 1-23, 2-69, 2-71, 3.1-29, 3.1-34, 3.13-18, 3.14-30, 3.14-49, 3.14-80, 3.15-1, 3.15-10, 3.15-14, 3.15-15, 3.15-16, 3.15-17, 3.15-18, 3.15-19, 3.15-20, 3.15-21, 3.15-22, 3.15-23, 3.15-24, 3.15-25, 3.15-26, 3.15-27, 3.15-29, 3.15-32, 3.15-35, 3.15-38, 3.15-39, 3.15-40, 3.15-41, 3.15-42, 3.15-43, 3.15-44, 3.15-45, 3.15-46, 4-14, 4-27, 5-18, 5-19, 5-20
Sacramento Metropolitan Fire District (SMFD) .....	ES-24, ES-25, ES-26, 1-9, 1-23, 2-25, 2-26, 3.6-1, 3.6-2, 3.6-7, 3.6-9, 3.6-10, 3.6-11, 3.6-18, 3.6-19, 3.6-25, 5-9
Sacramento Municipal Utility District (SMUD) .....	1-23, 2-41, 3.1-28, 3.1-32, 3.5-5, 3.5-7, 3.5-28, 3.5-29, 3.5-40, 3.5-45, 3.8-4, 5-8
Sacramento Orcutt grass ( <i>Orcuttia viscida</i> ) .....	3.10-9, 3.10-11, 3.10-12
Sacramento Region Blueprint.....	ES-7, ES-8, 2-85, 3.1-9, 3.1-25, 3.1-27, 3.1-37, 4-4, 5-4
Sacramento Regional County Sanitation District (SRCSD).....	ES-7, ES-8, ES-19, ES-22, 1-10, 1-23, 2-26, 2-33, 2-34, 2-55, 2-72, 3.1-14, 3.1-23, 3.1-24, 3.1-27, 3.5-3, 3.5-4, 3.5-7, 3.5-20, 3.5-21, 3.5-22, 3.5-23, 3.5-24,

	3.5-25, 3.5-32, 3.5-33, 3.5-34, 3.5-35, 3.5-36, 3.5-37, 3.5-40, 3.5-43, 3.5-44, 4-11, 4-15, 4-25, 5-5, 5-7, 5-8, 5-22
Safe Drinking Water Act .....	1-23, 3.4-13
Sandbar willow ( <i>Salix exigua</i> ).....	3.10-6
Sanford’s arrowhead ( <i>Sagittaria sanfordii</i> ).....	2-79, 3.10-9, 3.10-11, 3.10-12
Savannah sparrow ( <i>Passerculus sandwichensis</i> ).....	3.10-6
Say’s phoebe ( <i>Sayornis phoebe</i> ) .....	3.10-6
SBC Communications—see AT&T Inc. ....	1-15, 1-22, 3.5-5
Schools .....	2-14, 2-25, 2-52, 18, 3.1-20, 3.6-3, 3.16-10, 3.16-12, 3.16-19
School siting requirements—see California Department of Education (CDE), CDE siting criteria .....	3.1-3
Section 303(d) Impaired Waters List.....	3.4-13
Section 401 permit—see water quality certification	
Section 404 permit—see Clean Water Act (CWA)	
Security Park .....	2-4, 2-34, 3.1-2, 3.4-3, 3.5-9, 3.5-20, 3.5-22, 3.7-12, 3.9-5, 3.9-6, 3.11-1, 3.11-8, 3.11-9, 3.13-7, 3.13-15, 3.16-3, 3.16-9, 3.16-22
Seismicity .....	3.7-3
Senate Bill 50 .....	3.3-2
Senate Bill 115 .....	3.6-5, 3.6-25
Senate Bill 610 .....	3.5-6
Sharp-shinned hawk ( <i>Accipiter striatus</i> ) .....	3.10-9
Short-eared owl ( <i>Asio flammeus</i> ) .....	3.10-9
Significant Traffic Impact Avoidance Alternative .....	2-82
Slender Orcutt grass ( <i>Orcuttia tenuis</i> ).....	3.10-8
SMARA.....	1-23, 3.7-14, 3.7-16
Society of Vertebrate Paleontology.....	3.8-1, 3.8-2, 3.8-5, 5-11
Soft chess ( <i>Bromus hordeaceus</i> ) .....	3.10-2
Soils .....	ES-27, ES-28, ES-29, ES-30, ES-33, 1-2, 1-8, 2-69, 3.1-8, 3.1-28, 3.1-33, 3.4-31, 3.5-41, 3.7-1, 3.7-4, 3.7-5, 3.7-6, 3.7-11, 3.7-12, 3.7-13, 3.7-15, 3.7-16, 3.7-17, 3.7-19, 3.7-20, 3.7-21, 3.7-21, 3.7-22, 3.7-23, 3.8-4, 3.9-18, 3.10-2, 3.10-10, 3.10-13, 3.13-5, 3.13-9, 3.13-10, 3.13-15, 3.13-20, 3.13-27
South Sacramento County Habitat Conservation Plan (SSCHCP) .....	ES-40, ES-41, ES-43, 1-23, 3.1-15, 3.1-22, 3.1-23, 3.5-16, 3.5-42, 3.10-20, 3.10-27, 3.10-35, 3.10-43, 3.10-44, 3.10-46
State school funding .....	3.6-5
State Historic Preservation Officer (SHPO).....	1-9, 3.9-9
State Implementation Plan (SIP) .....	1-23, 3.4-14, 3.14-30, 3.15-12, 3.15-15, 4-14
State Water Resources Control Board (SWRCB) .....	ES-13, ES-14, 1-9, 1-24, 3.4-11, 3.4-12, 3.4-13, 3.4-14, 3.4-15, 3.4-24, 3.4-25, 3.10-19

Stormwater .....	ES-2, ES-12, ES-13, ES-14, ES-14, ES-15, ES-16, ES-37, 1-2, 1-10, 2-16, 2-21, 2-22, 2-42, 2-70, 3.1-10, 3.1-21, 3.4-11, 3.4-12, 3.4-14, 3.4-15, 3.4-16, 3.4-17, 3.4-18, 3.4-19, 3.4-20, 3.4-20, 3.4-21, 3.4-22, 3.4-23, 3.4-24, 3.4-24, 3.4-25, 3.4-25, 3.4-26, 3.4-27, 3.4-27, 3.4-28, 3.4-31, 3.4-32, 3.4-33, 3.4-34, 3.7-23, 3.10-21, 3.10-28, 3.10-31, 3.12-8, 4-14
Storm water pollution prevention plan (SWPPP).....	ES-13, ES-14, 1-23, 2-70, 2-71, 3.4-15, 3.4-24, 3.4-25, 3.4-27, 3.4-29, 3.4-34, 3.5-17, 3.7-23
Sulfur dioxide (SO <sub>2</sub> ) .....	1-23, 3.15-2, 3.15-3, 3.15-5, 3.15-6, 3.15-7
SunCreek Specific Plan .....	2-72, 2-73, 3.5-9, 3.14-26, 4-8, 4-10
SunRidge Specific Plan .....	ES-61, ES-62, ES-65, ES-66, ES-68, ES-80, ES-88, ES-90, 2-4, 3.1-2, 3.1-37, 3.14-1, 3.14-17, 3.14-18, 3.14-25, 3.14-26, 3.14-51, 3.14-52, 3.14-55, 3.14-56, 3.14-59, 3.14-72, 3.14-97, 3.14-99, 3.14-100, 3.16-15, 4-7, 4-8, 4-16, 5-18
Sunrise Douglas Community Plan.....	ES-61, ES-62, ES-88, 2-4, 3.1-2, 3.1-37, 3.4-17, 3.5-9, 3.5-43, 3.11-1, 3.11-9, 3.11-13, 3.11-14, 3.11-17, 3.13-15, 3.14-51, 3.14-52, 3.14-97, 4-7, 4-8, 4-10, 4-12, 4-16, 5-6
Surface water .....	1-22, 3.4-7, 3.4-29, 3.4-33, 3.5-15
Swainson's hawk ( <i>Buteo swainsoni</i> ) .....	ES-40, ES-43, ES-44, ES-45, 2-69, 3.5-21, 3.10-10, 3.10-13, 3.10-39, 3.10-41, 3.10-42, 3.10-42, 3.10-43, 3.10-46, 3.10-47, 3.10-48, 3.10-51, 3.10-52, 4-11
Teichert Aggregates, Inc. (Teichert).....	1-24, 2-57, 3-2, 3.1-1, 3.7-14, 3.11-1
Total Maximum Daily Load (TMDL) .....	1-24, 3.4-11, 3.4-13
Toxic air contaminants (TACs) .....	ES-114, ES-117, 3.15-5, 3.15-9, 3.15-10, 3.15-16, 3.15- 17, 3.15-28, 3.15-29, 3.15-30, 3.15-31, 3.15-32, 3.15-33, 3.15-48, 3.15-49, 3.15-50, 4-27
Transit Master Plan.....	
Trichloroethene (TCE) .....	1-24, 2-69, 2-71, 3.1-28, 3.1-29, 3.1-33, 3.1-34, 3.13-5, 3.13-7, 3.13-9, 3.13-11, 3.13-12, 3.13-13, 3.13-15, 3.13-20, 3.15-35
Tricolored blackbird ( <i>Agelaius tricolor</i> ) .....	3.10-9
Trustee agency .....	ES-38, ES-39, 1-9, 3.10-33, 3.10-37
Tuolumne button-celery ( <i>Eryngium pinnatisectum</i> ).....	3.10-7, 3.10-8
Urban Policy Area .....	2-73, 3.1-23
Urban Services Boundary (USB) .....	1-24, 2-72, 2-73, 2-79, 2-80, 3.1-15, 3.1-23, 3.5-21, 3.5-43, 3.10-20, 3.14-22, 4-2
Urban Water Management Plan (UWMP) .....	1-24, 3.5-6
U.S. Army Corps of Engineers (USACE) .....	ES-1, ES-2, ES-3, ES-4, ES-6, ES-34, ES-35, ES-36, ES-37, ES-40, ES-41, ES-42, 1-1, 1-3, 1-4, 1-6, 1-7, 1-8, 1-9, 1-10, 1-11, 1-24, 2-1, 2-2, 2-3, 2-4, 2-8, 2-21, 2-22, 2-25, 2-33, 2-42, 2-58, 2-63, 2-64, 2-67, 2-72, 2-79, 2-82, 3-2, 3-7, 3.1-25, 3.1-30, 3.1-35, 3.4-11, 3.5-9, 3.5-10, 3.5-15, 3.5-18, 3.5-19, 3.5-22, 3.5-23, 3.5-35, 3.10-5, 3.10-14, 3.10-17, 3.10-18, 3.10-19, 3.10-22,

	3.10-25, 3.10-26, 3.10-27, 3.10-27, 3.10-28, 3.10-29, 3.10-30, 3.10-31, 3.10-32, 3.10-35, 3.10-43, 3.10-44, 3.10-45, 3.10-52, 4-7, 4-9, 5-1, 5-3, 5-14, 5-15, 6-1
U.S. Department of Labor, Occupational Safety and Health Administration (OSHA).....	3.13-6, 3.13-17
U.S. Department of Transportation .....	1-9, 3.13-17
U.S. Environmental Protection Agency (EPA) .....	ES-2, 1-9, 1-10, 1-17, 3.1-29, 3.3-1, 3.4-10, 3.5-11, 3.13-5, 3.13-16, 3.15-2, 3.16-15, 5-16, 5-17, 5-19, 5-20, 5-21
U.S. Fish and Wildlife Service (USFWS) .....	ES-2, ES-35, ES-40, ES-41, ES-42, ES-43, ES-45, 1-9, 1-10, 1-24, 3.10-8, 3.10-9, 3.10-10, 3.10-11, 3.10-12, 3.10-13, 3.10-17, 3.10-20, 3.10-26, 3.10-30, 3.10-34, 3.10-35, 3.10-40, 3.10-43, 3.10-44, 3.10-45, 3.10-46, 3.10-49, 3.10-50, 4-25, 4-26, 5-3, 5-15
U.S. Geological Survey (USGS) .....	1-24, 3.7-1, 3.7-3, 3.7-15, 3.8-1, 3.10-1, 3.10-7, 5-9, 5- 10, 5-11, 5-12
Utilities .....	ES-5, ES-59, ES-87, 1-1, 1-2, 1-7, 2-13, 2-14, 2-16, 2-25, 2-54, 2-83, 3.2-7, 3.4-4, 3.5-6, 3.5-7, 3.5-8, 3.5-10, 3.5-16, 3.5-17, 3.5-19, 3.5-24, 3.5-25, 3.5-28, 3.5-29, 3.5-30, 3.5-31, 3.5-35, 3.5-36, 3.5-39, 3.7-19, 3.14-49, 3.14-80, 3.15-7, 3.15-9, 3.16-15
Valley elderberry longhorn beetle (VELB) ( <i>Desmocerus californicus dimorphus</i> ).....	ES-40, ES-42, ES-43, 1-24, 3.10-12, 3.10-33, 3.10-34, 3.10-35, 3.10-35, 3.10-39, 3.10-41, 3.10-42, 3.10-43, 3.10-45, 3.10-46
Vegetation .....	ES-14, ES-39, ES-42, ES-43, ES-60, 2-57, 2-67, 2-70, 2-79, 3-3, 3.1-2, 3.1-7, 3.1-8, 3.4-22, 3.4-25, 3.5-41, 3.7-12, 3.7-13, 3.8-2, 3.10-1, 3.10-2, 3.10-5, 3.10-6, 3.10-14, 3.10-17, 3.10-32, 3.10-33, 3.10-34, 3.10-37, 3.10-45, 3.10-46, 3.10-49, 3.11-1, 3.11-8, 3.11-12, 3.11-14, 3.11-15, 3.11-16, 3.11-18, 3.11-20, 3.11-22, 3.14-50, 3.14-67, 3.15-10, 3.16-8, 3.16-26, 3.16-36
Vehicle Miles Traveled (VMT).....	1-3, 1-24, 3.1-9, 3.15-15, 3.15-20, 3.15-25, 3.15-36, 3.15-37, 3.15-42, 3.15-43
Vernal pools .....	ES-4, ES-34, ES-36, ES-40, ES-41, ES-46, 2-21, 2-22, 2-78, 2-79, 2-80, 2-84, 3.1-30, 3.1-35, 3.4-22, 3.7-5, 3.10-1, 3.10-2, 3.10-8, 3.10-9, 3.10-11, 3.10-12, 3.10-13, 3.10-14, 3.10-17, 3.10-22, 3.10-25, 3.10-26, 3.10-27, 3.10-27, 3.10-28, 3.10-30, 3.10-39, 3.10-40, 3.10-42, 3.10-43, 3.10-44, 3.10-51, 3.10-51, 3.11-8, 4-11, 4-26
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> ).....	3.10-11, 3.10-12, 3.10-39
Vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> ) .....	3.10-11, 3.10-39
Vetch ( <i>Vicia</i> spp.).....	3.10-2
Vision Book.....	1-3
Volatile organic compound (VOC) .....	3.1-28, 3.1-29, 3.1-33, 3.1-34, 3.4-7, 3.13-5, 3.13-7, 3.13-8, 3.13-9, 3.13-11, 3.13-12, 3.13-15, 3.15-2, 3.15-29

Volume-to-capacity ratio (V/C) .....	ES-62, ES-63, ES-65, ES-67, ES-68, ES-70, ES-73, ES-74, ES-75, ES-76, ES-77, ES-79, ES-88, ES-90, ES-91, ES-92, ES-93, ES-94, ES-95, ES-96, ES-97, ES-98, ES-99, ES-100, ES-102, ES-103, ES-104, ES-105, ES-107, 1-24, 3.14-8, 3.14-14, 3.14-19, 3.14-20, 3.14-23, 3.14-43, 3.14-45, 3.14-52, 3.14-53, 3.14-55, 3.14-57, 3.14-58, 3.14-61, 3.14-64, 3.14-65, 3.14-66, 3.14-67, 3.14-68, 3.14-69, 3.14-70, 3.14-87, 3.14-89, 3.14-91, 3.14-93, 3.14-98, 3.14-99, 3.14-100, 3.14-101, 3.14-102, 3.14-103, 3.14-104, 3.14-105, 3.14-106, 3.14-107, 3.14-108, 3.14-109, 3.14-110, 3.14-113, 3.14-114, 3.14-115, 3.14-117, 3.14-118
Waste Discharge Requirements (WDRs) .....	ES-13, 1-10, 3.4-14, 3.4-15, 3.4-16, 3.4-24
Water Forum Agreement .....	1-24, 3.5-1, 3.5-12, 3.5-13, 3.5-14, 3.5-40, 3.5-41, 3.5-42, 3.12-13
Water quality .....	ES-4, ES-5, ES-13, ES-15, ES-17, ES-36, ES-59, ES-86, ES-87, 1-7, 1-8, 2-3, 2-16, 2-21, 2-51, 2-70, 2-84, 3.4-8, 3.4-10, 3.4-11, 3.4-12, 3.4-13, 3.4-14, 3.4-15, 3.4-16, 3.4-17, 3.4-18, 3.4-22, 3.4-23, 3.4-24, 3.4-25, 3.4-26, 3.4-27, 3.4-27, 3.4-28, 3.4-29, 3.4-32, 3.4-33, 3.4-34, 3.5-4, 3.5-11, 3.5-24, 3.5-41, 3.5-42, 3.5-44, 3.7-16, 3.10-19, 3.10-30, 3.10-31, 3.14-49, 3.14-80, 4-13, 4-14, 4-19
Water quality certification .....	3.4-12, 3.10-19
Water Supply Assessment .....	1-13, 1-25, 2-33, 3.5-12, 3.5-14, 5-1, 5-3, 5-8
Watersheds .....	2-16, 2-21, 3.4-1, 3.4-3, 3.4-4, 3.4-18
Western burrowing owl ( <i>Athene cunicularia hypugea</i> )....	3.10-13
Western fence lizard ( <i>Sceloporus occidentalis</i> ) .....	3.10-6
Western kingbird ( <i>Tyrannus verticalis</i> ).....	3.10-6
Western meadowlark ( <i>Sturnella neglecta</i> ) .....	3.10-6
Western spadefoot toad ( <i>Scaphiopus hammondi</i> ) .....	3.10-10, 3.10-13
Wetlands, wetland preserve .....	ES-2, ES-3, ES-4, ES-5, ES-34, ES-35, ES-36, ES-37, ES-45, ES-46, ES-59, ES-87, 1-2, 2-1, 2-8, 2-16, 2-21, 2-22, 2-25, 2-42, 2-58, 2-63, 2-80, 2-85, 3.1-7, 3.1-25, 3.1-30, 3.1-35, 3-4, 3.4-11, 3.4-18, 3.4-21, 3.4-22, 3.4-23, 3.5-21, 3.8-1, 3.9-13, 3.10-1, 3.10-2, 3.10-5, 3.10-9, 3.10-12, 3.10-13, 3.10-14, 3.10-17, 3.10-18, 3.10-19, 3.10-20, 3.10-21, 3.10-22, 3.10-25, 3.10-26, 3.10-27, 3.10-27, 3.10-28, 3.10-29, 3.10-30, 3.10-31, 3.10-32, 3.10-34, 3.10-35, 3.10-40, 3.10-42, 3.10-49, 3.10-50, 3.10-51, 3.10-52, 3.11-13, 3.11-14, 3.11-17, 3.11-18, 3.11-19, 3.11-21, 3.11-22, 3.13-15, 3.13-26, 3.14-49, 3.14-80, 3.15-10, 3.15-21, 4-19, 4-26
White-tailed kite ( <i>Elanus leucurus</i> ).....	3.10-13, 3.10-41
Wildlife.....	ES-2, ES-40, ES-41, ES-42, ES-43, 1-9, 1-10, 1-24, 2-79, 3.10-6, 3.10-9, 3.10-11, 3.10-12, 3.10-15, 3.10-39, 3.10-44, 3.10-45, 3.10-45, 3.10-46, 3.11-1, 4-21, 4-25, 4-26, 5-3, 5-13, 5-15, 6-2
Williamson Act.....	2-70, 3.1-2, 3.1-7, 3.1-8, 3.1-22, 3.1-37

Willow ( <i>Salix</i> sp.).....	2-78, 3.10-2, 3.10-5, 3.10-6
Worker safety requirements .....	3.13-17
Yellow starthistle ( <i>Centaurea solstitialis</i> ).....	3.10-2
Zone 40.....	ES-18, ES-21, 1-25, 2-26, 2-33, 3.4-29, 3.5-1, 3.5-2, 3.5-7, 3.5-9, 3.5-11, 3.5-12, 3.5-13, 3.5-14, 3.5-15, 3.5-16, 3.5-17, 3.5-40, 3.5-42, 4-11, 4-15, 4-24, 5-6, 5-8, 5-22
Zone 41.....	1-9, 2-26, 3.5-1, 4-15
Zoning .....	3.1-2, 3.1-3, 3.1-19, 3.1-22, 3.1-37, 3.7-16, 5-10