The Preserve Project

SCH# 2019100515

Draft Environmental Impact Report

Prepared for

City of Rancho Cordova

November 2021

Prepared by

RANEY PLANNING & MANAGEMENT, INC. 20 years

1501 Sports Drive, Suite A, Sacramento, CA 95834

The Preserve Project
Draft Environmental Impact Report

SCH# 2019100515

Lead Agency

City of Rancho Cordova
Community Development Department
2729 Prospect Park Drive
Rancho Cordova, CA 95760

Darcy Goulart
Principal Planner
(916) 851-8784

Prepared By

Raney Planning and Management, Inc.
1501 Sports Drive, Suite A
Sacramento, CA 95834
(916) 372-6100

Contact:
Rod Stinson
Division Manager/Air Quality Specialist

TABLE OF CONTENTS

TABLE OF CONTENTS

CHAPTER **PAGE**

CHAPTER **PAGE**

Appendices

LIST OF FIGURES

FIGURE **PAGE**

3. Project Description

4.1 Air Quality, Greenhouse Gas Emissions, and Energy

4.2 Biological Resources

4.3 Cultural and Tribal Resources

4.4 Geology and Soils / Mineral Resources

4.5 Hazards and Hazardous Materials

FIGURE **PAGE**

4.6 Hydrology and Water Quality

4.7 Land Use and Planning / Population and Housing

4.8 Noise

4.9 Public Services and Utilities

4.10 Transportation

6 Alternatives Analysis

LIST OF TABLES

TABLE **PAGE**

2. Executive Summary

4.1 Air Quality

4.2 Biological Resources

4.4 Geology and Soils / Mineral Resources

4.6 Hydrology and Water Quality

4.7 Land Use and Planning / Population and Housing

TABLE **PAGE**

4.8 Noise

4.9 Public Services and Utilities

4.10 Transportation

TABLE **PAGE**

6. Alternatives Analysis

1. Introduction

1. INTRODUCTION

1.1 TYPE AND PURPOSE OF THE EIR

The Preserve Project Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970, Public Resources Code (PRC) Sections 21000-21178, as amended, and the Guidelines for Implementation of the California Environmental Quality Act, California Code of Regulations (CCR) Title 14, Sections 15000-15387 (CEQA Guidelines). The City of Rancho Cordova is the lead agency for the environmental review of The Preserve Project (proposed project) evaluated herein and has the principal responsibility for approving the project. As required by Section 15121 of the CEQA Guidelines, this EIR will (a) inform public agency decision-makers, and the public generally, of the significant environmental effects of the project, (b) identify possible ways to minimize the significant adverse environmental effects, and (c) describe reasonable and feasible project alternatives which reduce environmental effects. The public agency shall consider the information in the EIR along with other information that may be presented to the agency.

As provided in the CEQA Guidelines Section 15021, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues. CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment. For the purposes of CEQA, the term project refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed project, the City has determined that the proposed development is a *project* within the definition of CEQA, which has the potential for resulting in significant environmental effects.

The lead agency, which is the City of Rancho Cordova for this project, is required to consider the information in the EIR along with any other available information in deciding whether to approve the application. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth inducing impacts, and cumulative impacts.

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a *project-level EIR* pursuant to CEQA Guidelines Section 15161, which is an analysis that examines the environmental impacts of a specific development project. A *project-level EIR* focuses primarily on the changes in the environment that would result from the development of the project, and examines all phases of the project including planning, construction, and operation.

1.2 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

"Responsible agency" means a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purpose of CEQA, the term responsible agency includes all California public agencies other than the lead agency that have discretionary approval power over the project or an aspect of the project. The

Sacramento Metropolitan Air Quality Management District (SMAQMD) and Central Valley Regional Water Quality Control Board (CVRWQCD) are identified as potential responsible agencies for the proposed project.

"Trustee agency" means a State agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. The only known possible trustee agency is the California Department of Fish and Wildlife (CDFW).

Although not subject to California law, and, thus, outside the definitions of responsible agency or trustee agency, the U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS) would also be called upon to grant approvals — under federal law — necessary for the development of the project site. The above agencies do not have duties under CEQA, but, rather, are governed by a variety of federal statutes, such as the Clean Water Act, which governs the dredging and filling of waters of the U.S. (e.g., wetlands), and the Endangered Species Act, which requires USACE to consult with the USFWS as part of the review process for any wetland or fill permits that may be required.

1.3 PROJECT SUMMARY

The project site consists of 279.3 acres located northwest of Raymer Way and Grant Line Road, north of the Sunridge Specific Plan area and east of the Rio Del Oro Specific Plan area, within the City of Rancho Cordova. Currently, the project site contains two single-family residences and associated outbuildings on the southern portion of the site, an orchard within the northeastern portion of the site, and a third single-family residence and associated outbuildings in the northwestern portion of the site. The remainder of the site consists primarily of non-native grasses, with scattered trees located in the vicinity of the existing residences and associated access roads. The site is characterized by moderate rolling hills and flatlands interspersed with seasonal drainage corridors and wetlands. Morrison Creek runs northeast to southwest through the project site. Per the City of Rancho Cordova General Plan, the project site is located within the Grant Line West Planning Area and is designated Natural Resources and Residential-Mixed Density. The site is zoned Agricultural (AG-80) and Industrial Reserve (IR).

The proposed project would include subdivision of the project site to develop 440 single-family residences and associated parks, open space areas, and infrastructure to support the community. Of the 279.3 acres within the project site, 185.3 acres of currently undeveloped land on the northern parcels would remain as open space following development of the proposed project. A total of 8.65 acres are planned for two park areas located at the northern end of the development area, and an additional 9.77 acres of land would be designated Community Space. Finally, 0.45-acre of the project site would be designated green infrastructure which would include enhanced landscaped areas and trails with connection to the surrounding parks. Off-site improvements could be required, including utility connection or road development to the east of the site boundary and along the existing Raymer Way to the intersection with Grant Line Road, which could include expansion of the roadway or modifications to Morrison Creek.

A General Plan Amendment (GPA) is included as part of the proposed project to change the land use designation of the project site from Grant Line West Planning Area to Low-Density Residential. In addition, a GPA is included to amend the Circulation Element to alter the planned construction of Centennial Drive. If constructed as depicted in the Circulation Element, Centennial Drive would be a four-lane roadway and run through the project site in an east-west direction; however, through approval of the GPA, the portion within the project site would not be constructed.

The proposed project would require the following discretionary actions by the City of Rancho Cordova:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- General Plan Amendment from Grant Line West Planning Area to Low-Density Residential;
- General Plan Amendment to remove the portion of Centennial Drive through the project site, as depicted in the Circulation Element;
- Rezone from AG-80 (approximately 68.42 acres) and IR (approximately 30.48 acres) to Residential District (RD-5);
- Tentative Subdivision Map; and
- Development Agreement.

Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the proposed project and entitlements, as well as a full list of the project objectives.

1.4 EIR PROCESS

The EIR process begins with the decision by the lead agency to prepare an EIR, either during a preliminary review of a project or at the conclusion of an Initial Study. Once the decision is made to prepare an EIR, the lead agency sends a Notice of Preparation (NOP) to appropriate government agencies and, when required, to the State Clearinghouse (SCH) in the Office of Planning and Research (OPR), which will ensure that responsible and trustee State agencies reply within the required time. The SCH assigns an identification number to the project, which then becomes the identification number for all subsequent environmental documents on the project. Commenting agencies have 30 days to respond to the NOP and provide information regarding alternatives and mitigation measures they wish to have explored in the Draft EIR and to provide notification regarding whether the agency will be a responsible agency or a trustee agency for the project.

Upon completion of the Draft EIR and prior to circulation to State and local agencies and interested members of the public, a notice of completion is filed with the SCH and a public notice of availability is published to inform interested parties that a Draft EIR is available for agency and public review. In addition, the notice provides information regarding the location where copies of the Draft EIR are available for public review and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a minimum period of 45 days, during which time reviewers may submit comments on the document to the lead agency. The lead agency must respond to comments in writing. If significant new information, as defined in CEQA Guidelines Section 15088.5, is added to an EIR after public notice of availability is given, but before certification of the EIR, the revised EIR or affected chapters must be recirculated for an additional public review period with related comments and responses.

A Final EIR will be prepared, containing public comments on the Draft EIR and written responses to those comments, as well as a list of changes to the Draft EIR text necessitated by public comments, as warranted. Before approving a project, the lead agency shall certify that the EIR (consisting of the Draft EIR and Final EIR) has been completed in compliance with CEQA, and that the EIR has been presented to the decision-making body of the lead agency, which has reviewed and considered the EIR. The lead agency shall also certify that the EIR reflects the lead agency's independent judgment and analysis.

The findings prepared by the lead agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA. If the decision-making body elects to proceed with a project that would have unavoidable significant impacts, then a Statement of Overriding Considerations explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

1.5 SCOPE OF THE EIR

This EIR constitutes a project-level analysis for the proposed project and, pursuant to CEQA Guidelines Section 15161, covers "all phases of the project including planning, construction, and operation." State CEQA Guidelines § 15126.2(a) states, in pertinent part:

> 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.

Pursuant to the CEQA Guidelines, the scope of this EIR addresses specific issues and concerns identified as potentially significant in the Initial Study prepared for the proposed project.

Environmental Issues Addressed in this EIR

The sections of the CEQA Guidelines Appendix G Checklist identified for study in this EIR include the following:

- Air Quality, Greenhouse Gas Emissions, and Energy;
- Biological Resources;
- Cultural and Tribal Resources;
- Geology and Soils/Mineral Resources;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning/Population and Housing;
- Noise;
- Public Services and Utilities; and
- Transportation.

The evaluation of effects is presented on a resource-by-resource basis in Chapters 4.1 through 4.10 of the EIR. Each chapter is divided into the following four sections: Introduction, Existing Environmental Setting, Regulatory Context, and Impacts and Mitigation Measures. Impacts that are determined to be significant in Chapters 4.1 through 4.10, and for which feasible mitigation measures are not available to reduce those impacts to a less-than-significant level, are identified as significant and unavoidable. Chapter 5 presents a discussion of growth-inducing impacts, a summary of cumulative impacts, and significant irreversible as well as significant and unavoidable environmental changes associated with the project. Alternatives to the proposed project are discussed in Chapter 6 of the EIR.

1.6 DEFINITION OF BASELINE

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a project-level EIR pursuant to CEQA Guidelines

Section 15161, which is an analysis that examines the environmental impacts of a specific development project. A project-level EIR focuses primarily on the changes in the environment that would result from the development of the project, and examines all phases of the project including planning, construction, and operation.

According to CEQA Guidelines Section 15125, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the "baseline physical conditions" against which project-related changes could be compared. In addition, CEQA Guidelines Section 15126.2(a) states that an EIR shall identify and focus on the significant environmental effects of the proposed project. The CEQA Guidelines, Section 15126.2(a), states in pertinent part:

> 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.

Normally, the baseline condition is the physical condition that exists when the NOP is published. The NOP for the proposed project was published on October 25, 2019. Therefore, conditions existing at that time are considered to be the baseline against which changes that would result from the proposed project are evaluated. Impacts could include both direct and indirect physical changes to the baseline condition. The baseline condition for the proposed project site is described in Chapter 3, Project Description, of this EIR. The baseline conditions pertaining to each resource area are described in the "Existing Environmental Setting" section of the respective chapters of this EIR.

1.7 NOTICE OF PREPARATION AND SCOPING

In accordance with CEQA Guidelines Section 15082, an NOP, as well as an attached Initial Study (see Appendix A), was circulated to the public, local, State and federal agencies, and other known interested parties for a 30-day public and agency review period from October 25, 2019 to November 25, 2019. The purpose of the NOP was to provide notification that an EIR for the proposed project was being prepared and to solicit public input on the scope and content of the document.

A public scoping meeting was held on for the purpose of informing the public and receiving comments on the scope of the environmental analysis to be prepared for the proposed project.

In addition, pursuant to CEQA Guidelines Section 15082, the City of Rancho Cordova held an NOP scoping meeting during the 30-day review period, on November 29, 2019, for the purpose of receiving comments on the scope of the environmental analysis to be prepared for the proposed project. Agencies and members of the public were invited to attend and provide input on the scope of the EIR. A total of eight comment letters were received during the NOP public review period and verbal comments were received at the NOP scoping meeting. The comment letters are provided as Appendix B to this EIR. All comments were taken into consideration during the preparation of this EIR. A summary of the NOP comments received is provided in Section 1.8 below.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

During the NOP public review period from October 25, 2019 to November 25, 2019, the City of Rancho Cordova received eight comment letters. In addition, verbal comments were received at the public scoping meeting held on November 13, 2019. A copy of each letter is provided in Appendix B of this EIR. The comment letters received during the NOP public review period were authored by the following representatives of public agencies:

- County of Sacramento Department of Transportation – Matthew G. Darrow
- Cordova Recreation and Park District – Laura L. Taylor;
- County of Sacramento, Department of Waste Management and Recycling – Dave Ghirardelli;
- Sacramento Municipal Utility District – Nicole Goi;
- Department of California Highway Patrol – R.M. Johnson;
- Central Valley Regional Water Quality Control Board – Jordan Hensley;
- California Department of Transportation (Caltrans) – David Smith; and
- Sacramento Metropolitan Air Quality Management District – Molly Wright.

The following list, categorized by issue, summarizes the concerns brought forth in the comment letters and verbal comments received on the scope of the EIR:

Air Quality and Greenhouse Gas Emissions	Concerns related to: • Construction and operational emissions of criteria pollutants and GHG emissions. • Project emissions in conjunction with planned projects within the Grant Line West planning area.
Biological Resources	Concerns related to: • Loss of plant and wildlife habitat. • Impacts on Morrison Creek. • Removal of wetlands or protected plants and animals.
Cultural and Tribal Resources	Concerns related to: • Potential for encountering previously unknown cultural, historical, or tribal resources at the project site.
Geology and Soils/Mineral Resources	Concerns related to: • Increased stormwater runoff causing soil erosion. • Removal of unsuitable soils.
Hydrology and Water Quality	Concerns related to: • Degradation of water quality in area waterways.
Land Use and Planning/Population and Housing	Concerns related to: • Increase in population.
Noise	Concerns related to: • Increase in noise levels to surrounding residential areas.
Public Services and Utilities	Concerns related to: • Lack of public access to the proposed park facilities. • Location of the proposed parks. • Impacts from construction of the proposed park facilities. • Connection of proposed trail system to the City's existing trail system.

	• Cumulative impacts related to the need for increased electrical delivery. • Potential need to relocate and/or remove any electrical infrastructure.
Transportation	Concerns related to: • Traffic increases in the project vicinity. • Increased traffic delays and congestion during commute hours. • Increase in emergency response times due to increased traffic delays and congestion. • Cumulative traffic impacts on the local and regional transportation system.

All of these issues are addressed in this EIR, in the relevant sections identified in the first column.

1.9 PROJECT CHANGES SINCE PUBLICATION OF THE NOP

Since the NOP was published, relatively minor changes to the proposed project have been made, including the following:

- Changes to the Tentative Subdivision Map layout that resulted in an increase in the number of single-family lots by six from 434 to 440;
- An additional General Plan Amendment is proposed to amend the Circulation Element to alter the planned construction of Centennial Drive; and
- A slight modification to the requested Rezone of Residential District (RD-5 is proposed, rather than RD-6).

The above changes have been evaluated throughout this EIR.

1.10 DRAFT EIR AND PUBLIC REVIEW

This Draft EIR is being circulated for public review and comment for a period of 45 days. During this period, the general public, organizations, and agencies can submit comments to the Lead Agency on the Draft EIR's accuracy and completeness. Release of the Draft EIR marks the beginning of a 45-day public review period pursuant to CEQA Guidelines Section 15105. The public can review the Draft EIR at the City's website at:

https://www.cityofranchocordova.org/government/planning/environmental-review/environmental-documents

or at the following address during normal business hours:

City of Rancho Cordova
Community Development Department
2729 Prospect Park Drive
Rancho Cordova, CA 95670

Comments may be submitted both in written form and/or orally at the public hearing on the Draft EIR. Notice of the time and location of the hearing will be published in local newspapers, mailed to property owners and residents surrounding the project, emailed to residents that have requested to be placed on the project's email notification list, posted on the City's website, and posted at and adjacent to the site prior to the hearing.

All comments or questions regarding the Draft EIR should be addressed to:

Darcy Goulart, Principal Planner
City of Rancho
Cordova Community Planning Department
Rancho Cordova, CA 95760
(916) 851-8784
fax (916) 851-8762
dgoulart@cityofranchocordova.org

1.11 ORGANIZATION OF THE DRAFT EIR

The EIR is organized into the following sections:

Chapter 1 – Introduction
Provides an introduction and overview describing the intended use of the EIR and the review and certification process, as well as summaries of the chapters included in the EIR and summaries of the issues and concerns received from the public and public agencies during the NOP review period.

Chapter 2 – Executive Summary
Summarizes the elements of the project and the environmental impacts that would result from implementation of the proposed project, describes proposed mitigation measures, and indicates the level of significance of impacts after mitigation.

Chapter 3 – Project Description
Provides a detailed description of the proposed project, including the project's location, background information, objectives, and technical characteristics.

Chapter 4 – Environmental Setting, Impacts, and Mitigation
Contains a project-level and cumulative analysis of environmental issue areas associated with the proposed project. The section for each environmental issue contains an introduction and description of the setting of the project site, identifies impacts, and recommends appropriate mitigation measures.

Chapter 5 – Statutorily Required Sections
Provides discussions required by CEQA regarding impacts that would result from the proposed project, including a summary of potential growth-inducing impacts, significant irreversible changes to the environment, and significant and unavoidable impacts.

Chapter 6 – Alternatives Analysis
Provides a comparative analysis of the alternatives to the proposed project, their respective comparative environmental effects, and a determination of the environmentally superior alternative.

Chapter 7 – EIR Authors and Persons Consulted
Lists EIR and technical report authors who provided technical assistance in the preparation and review of the EIR.

Chapter 8 – References
Provides bibliographic information for all references and resources cited.

Appendices
The Appendices include the NOP and Initial Study, comments received during the NOP comment period, and all technical reports prepared for the proposed project.

2. Executive Summary

2. EXECUTIVE SUMMARY

2.1 INTRODUCTION

The Executive Summary chapter of the EIR provides an overview of the proposed project (see Chapter 3, Project Description, for further details) and provides a table summary of the conclusions of the environmental analysis provided in Chapters 4.1 through 4.10. This chapter also summarizes the alternatives to the proposed project that are described in Chapter 6, Alternatives Analysis, and identifies the Environmentally Superior Alternative. Table 2-1 contains the environmental impacts associated with the proposed project, the significance of the impacts, the proposed mitigation measures for the impacts, and the significance of the impacts after implementation of the mitigation measures.

2.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The project site consists of approximately 279.3 acres within the City of Rancho Cordova, located northwest of Raymer Way and Grant Line Road, north of the Sunridge Specific Plan area and east of the Rio Del Oro Specific Plan area. The site is identified by Assessor's Parcel Numbers (APNs) 072-0300-001, -002, -005, -008, and 073-0010-010, and -011.

Currently, the project site contains two single-family residences and associated outbuildings on the southern portion of the site, within parcels 072-0300-002 and -005. An orchard is located within the northeastern portion of the site within parcel 073-0010-011, and a third single-family residence and associated outbuildings are located on APN 072-0300-008. The remainder of the site consists primarily of non-native grasses, with scattered trees located in the vicinity of the existing residences and associated access roads. The site is characterized by moderate rolling hills and flatlands interspersed with seasonal drainage corridors and wetlands. Additionally, Morrison Creek runs northeast to southwest through the project site.

Per the City of Rancho Cordova General Plan, the project site is located within the Grant Line West Planning Area and is designated Natural Resources and Residential-Mixed Density. The site is zoned Agricultural (AG-80) and Industrial Reserve (IR).

The proposed project would include subdivision of the project site to develop 440 single-family residences and associated parks, open space areas, and infrastructure to support the community. Of the 279.3 acres within the project site, 185.3 acres of currently undeveloped land on the northern parcels would remain as open space following development of the proposed project. A total of 8.65 acres are planned for two park areas located at the northern end of the development area, and an additional 9.77 acres of land would be designated Community Space. Finally, 0.45-acre of the project site would be designated green infrastructure which would include enhanced landscaped areas and trails with connection to the surrounding parks.

The proposed project could include off-site improvements to the east of the site boundary. Improvements could include utility connection or road development. Additionally, off-site improvements could be required along the existing Raymer Way to the intersection with Grant Line Road, and could include expansion of the roadway or modifications to Morrison Creek.

A General Plan Amendment (GPA) is included as part of the proposed project to change the land use designation of the project site from Grant Line West Planning Area to Low-Density Residential. In addition, a GPA is included as part of the project to amend the Circulation Element to alter the planned construction of Centennial Drive. If constructed as depicted in the Circulation Element, Centennial Drive would be a four-lane roadway and run through the project site in an east-west direction; however, through approval of the GPA, the portion within the project site would not be constructed.

The proposed project would require the following discretionary actions by the City of Rancho Cordova:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- GPA from Grant Line West Planning Area to Low-Density Residential;
- GPA to remove the portion of Centennial Drive through the project site, as depicted in the Circulation Element;
- Rezone from AG-80 (approximately 68.42 acres) and IR (approximately 30.48 acres) to Residential District (RD-5);
- Tentative Subdivision Map; and
- Development Agreement.

In addition to the aforementioned entitlements from the City, the proposed project would require approvals/permits from the following State, federal, or local agencies:

- California Department of Fish and Wildlife (CDFW);
- Central Valley Regional Water Quality Control Board (CVRWQCB);
- Sacramento Metropolitan Air Quality Management District (SMAQMD);
- U.S. Army Corps of Engineers (USACE) – Nationwide Permit (404); and, possibly,
- U.S. Fish and Wildlife Service (USFWS).

Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the proposed project and entitlements, as well as a full list of the project objectives.

2.3 ENVIRONMENTAL IMPACTS AND PROPOSED AND RECOMMENDED MITIGATION

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Mitigation measures must be implemented as part of the proposed project to reduce potential adverse impacts to a less-than-significant level. Such mitigation measures are noted in this EIR and are found in the following technical chapters: Air Quality, Greenhouse Gas Emissions, and Energy; Biological Resources; Cultural and Tribal Resources; Geology and Soils/Mineral Resources; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise; and Transportation. Any impact that remains significant after implementation of mitigation measures is considered a significant and unavoidable impact.

A summary of the identified impacts in the technical chapters of the EIR, as well as the Initial Study prepared for the project, is presented in Table 2-1. In Table 2-1, the proposed project

impacts are identified for each technical chapter (Chapter 4.1 through 4.10) of the EIR. In addition, Table 2-1 includes the level of significance of each impact, any mitigation measures required for each impact, and the resulting level of significance after implementation of mitigation measures for each impact.

2.4 SUMMARY OF PROJECT ALTERNATIVES

The following section presents a summary of the evaluation of the alternatives considered for the proposed project, which include the following:

- No Project Alternative;
- Reduced VMT Alternative; and
- Reduced Footprint Alternative.

The following summary provides brief descriptions of the three alternatives to the proposed project that are evaluated in this EIR. For a more thorough discussion of project alternatives, please refer to Chapter 6, Alternatives Analysis.

No Project Alternative

The No Project Alternative assumes that the project site would remain in its current condition, as described above. The No Project Alternative would not meet any of the identified project objectives.

Reduced VMT Alternative

The Reduced VMT Alterative would consist of 376 single-family residential lots on the same 98.9-acre development footprint. Lot sizes would be larger in size than those of the currently proposed project, and the reduction in units would result in a density of 3.8 dwelling units per acre (du/ac). Under the Reduced VMT Alternative, the project would require a rezone of the 98.9 acres to the RD-4 zoning district.

Because the Reduced VMT Alternative would maintain a similar development footprint to the proposed project, access to the site under the alternative would continue to be provided by two entry points along Raymer Way, and Edington Drive would still be extended to provide access from the site to the existing Camden at Somerset Ranch subdivision. With the reduction in units, the site would require fewer interior streets and water and sewer line connections. The Alternative would still implement two bio-retention basins in the northwest portion of the site, and new drain inlets and underground storm drains would also be installed. The GPA would still be required to amend the General Plan's Circulation Element, which calls for extending Centennial Drive through the site.

The Reduced VMT Alternative would result in fewer impacts to Air Quality, GHG Emissions, and Energy, Noise, Public Services and Utilities, and Transportation, as compared to the proposed project. However, the Alternative would result in similar impacts related to Biological Resources, Cultural and Tribal Resources, Geology and Soils/Mineral Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, and Land Use and Planning/Population and Housing as compared to the proposed project.

The Reduced VMT Alternative would not achieve Objective #2. However, the Alternative would meet Objectives #1, #3, #4, #5, #6, and #7, as the reduction of units would not affect the ability for the alternative to consolidate the remaining parcels in the Grant Line West Planning Area in a

manner that concentrates development south of Morrison Creek; develop a residential community that is contiguous to and compatible with adjacent existing development; utilize existing utility capacity for maximum efficiency; develop a residential community that can provide timely housing; contribute to the overall bicycle and pedestrian connectivity of the City; or enhance the City's network of parks, trails, and open spaces.

Reduced Footprint Alternative

Under this alternative, the project site would be reduced to avoid wetland areas in the northwest section of the development area. The reduction in footprint would reduce the project's development area from 98.9 acres to 92.57 acres, which would preserve 6.33 acres of wetlands. The alternative would still implement the 9.77 acres designated for Community Space to allow for the inclusion of the bio-retention and hydromodification areas in the northwest portion of the site. Retaining the Community Space would necessitate a reduction in the number of units from 440 units to 315 units. The reduction in units and footprint would result in a density of 3.4 du/ac. As such, the Alternative would require a Rezone to the RD-4 Zoning District in order to accommodate the proposed density.

Access to the site under the alternative would continue to be provided by two entry points along Raymer Way, and Edington Drive would still be extended to provide access from the site to the existing Camden at Somerset Ranch subdivision. With the reduction in units, fewer water and sewer line connections would be required. The amount of stormwater infrastructure within the site would also be reduced due to the reduced area of ground disturbance. New drain inlets and underground storm drains would be installed. The GPA would still be required to amend the General Plan's Circulation Element, which calls for extending Centennial Drive through the site.

The Reduced Footprint Alternative would result in fewer impacts related to all issue areas, except for Land Use and Planning/Population and Housing, which would be similar as compared to the proposed project.

The Reduced Footprint Alternative would not achieve Objective #2. However, the Alternative would meet Objectives #1, #3, #4, #5, #6, and #7, as the reduction of units would not affect the ability for the alternative to consolidate the remaining parcels in the Grant Line West Planning Area in a manner that concentrates development south of Morrison Creek; develop a residential community that is contiguous to and compatible with adjacent existing development; utilize existing utility capacity for maximum efficiency; develop a residential community that can provide timely housing; contribute to the overall bicycle and pedestrian connectivity of the City; or enhance the City's network of parks, trails, and open spaces.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." The No Project Alternative would be considered the environmentally superior alternative, because the project site is assumed to remain in its current condition under the alternative. Consequently, the impacts resulting from the proposed project would not occur under the Alternative.

Based on the analysis presented in Chapter 6, Alternatives Analysis, of this EIR, the Reduced Footprint Alternative would meet would meet Objectives #1, #3, #4, #5, and #7. and would result in similar or fewer impacts as compared to the proposed project. In addition, the Reduced Footprint Alternative would result in fewer impacts to Biological Resources, Cultural and Tribal Resources, Geology and Soils/Mineral Resources, and Hazards and Hazardous Materials as compared to the Reduced VMT Alternative. Therefore, the Reduced Footprint Alternative would be the Environmentally Superior Alternative.

2.5 AREAS OF CONTROVERSY

Areas of controversy that were identified in NOP comment letters, and are otherwise known for the region, include the following:

- Construction and operational emissions of criteria pollutants and/or GHG emissions.
- Adverse effects from project emissions in conjunction with planned projects within the Grant Line West planning area.
- Loss of plant and wildlife habitat.
- Impacts on Morrison Creek.
- Removal of wetlands or protected plant and animals.
- Potential impacts related to the inadvertent discovery of cultural, historical, or tribal resources at the project site.
- Increased stormwater runoff causing soil erosion.
- Removal of unsuitable soils.
- Degradation of water quality in area waterways.
- Increase in population.
- Increase in ambient noise levels on surrounding residential areas.
- Concerns related to a lack of public access to the proposed park facilities.
- Concerns related to the interconnectivity of the proposed trail system to the City's existing trail system.
- Potential increase in emergency response times.
- Potential need to relocate and/or remove any electrical infrastructure.
- Increased traffic in the project vicinity.
- Cumulative traffic impacts on the local and regional transportation system.

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1 Air Quality, Greenhouse Gas Emissions, and Energy			
4-1-1 Conflict with or obstruct implementation of the applicable air quality plan during project construction.	LS	*None required.*	N/A
4-1-2 Conflict with or obstruct implementation of the applicable air quality plan during project operation.	LS	*None required.*	N/A
4-1-3 Expose sensitive receptors to substantial pollutant concentrations.	S	*4.1-3* *Prior to the initiation of any ground-disturbing activities, the project applicant shall ensure that all heavy-duty off-road diesel-powered equipment to be used during the grading phase of construction of the proposed project (including owned, leased, and subcontractor equipment) shall be CARB Tier 4 or cleaner.* *In addition, all off-road equipment working at the construction site must be maintained in proper working condition according to manufacturer's specifications. Idling shall be limited to five minutes or less in accordance with the In-Use Off-Road Diesel Vehicle Regulation as required by CARB. Portable equipment over 50 horsepower must have either a valid SMAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.* *The aforementioned requirements shall be noted on improvement plans and submitted for review and*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		approval by the City of Rancho Cordova Community Development Department.	
4-1-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LS	*None required.*	N/A
4-1-5 Result in the inefficient or wasteful use of energy, or conflict with a State or local plan for renewable energy or energy efficiency.	LS	*None required.*	N/A
4-1-6 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	LS	*None required.*	N/A
4-1-7 Generation of GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	S	*4.1-7 Off-site credits shall be purchased in order to reduce annual greenhouse gas (GHG) emissions by 617.30 MTCO2e per year. Credit purchases shall adhere to all of the following:* *1. Off-site credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in California Health and Safety Code*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations. Such credits must be purchased through one of the following: *(i) A California Air Resources Board (CARB)-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard;* *(ii) Any registry approved by CARB to act as a registry under the California Cap and Trade program; or* *(iii) Through the California Air Pollution Control Officers Association (CAPCOA) GHG Rx and the Sacramento Metropolitan Air Quality Management District (SMAQMD);* *(iv) In the event that no credits meeting these criteria are available within California, the applicant may purchase credits elsewhere so long as: (a) the Governor or the Governor's designee has made the findings set forth in Government Code Section 12894; (b) and these findings have been submitted to the Legislature; and*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		(c) California has accepted the credits as meeting the linkage standards contained in Government Code Section 12894 or its successor statute. *The applicant must show that the emission reductions from identified projects are real, permanent through the duration of the project (if it is a one-time purchase), enforceable, and are equal to the pollutant type and amount of the project impact being offset. In addition, any off-site purchase shall be subject to review and approval by the City of Rancho Cordova Community Development Department.*	
4.2 Biological Resources			
4.2-1 Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species.	S	*4.2-1(a)* *Prior to initiation of ground-disturbing activities within the Raymer Way Offsite, the project applicant shall comply with SSHCP AMM Plant-1 (Rare Plant Surveys). Though stinkbells is not considered an SSHCP Covered Species, the special-status plant surveys conducted per PLANT-1 shall identify whether the species is present in the survey area. If any special-status plant species are found to be present during the focused survey(s), Mitigation Measure 4.2-1(b) shall be implemented. If special-status plant species are not found to be present during the focused survey(s), then no further action is required. A written summary of the survey results shall*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		be submitted to the City of Rancho Cordova Community Development Department. • ***PLANT-1 (Rare Plant Surveys):*** *If a Covered Activity project site contains modeled habitat for Ahart's dwarf rush (Juncus leiospermus var. ahartii), Bogg's Lake hedge-hyssop (Gratiola heterosepala), dwarf downingia (Downingia pusilla), Legenere (Legenere limosa), pincushion navarretia (Navarretia myersii), or Sanford's arrowhead (Sagittaria sanfordii), the Covered Activity project site will be surveyed for the rare plant by an approved biologist and following the California Department of Fish and Wildlife (CDFW) rare plant survey protocols (CDFG 2009) or the most recent CDFW rare plant survey protocols. An approved biologist will conduct the field surveys and will identify and map plant species occurrences according to the protocols. See Chapter 10 (of the SSHCP) for the process to submit survey information to the Plan Permittee and the Permitting Agencies.* *4.2-1(b)* *If any SSHCP-covered plants are determined to be present within the Raymer Way Offsite, SSHCP PLANT-2 (Rare Plant Protection) shall be implemented. If any special-status plant species are determined to be present, a mitigation plan shall be prepared for review and approval by the City of*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Rancho Cordova; mitigation may include harvesting and transplanting of impacted bulbs into a preserved area with suitable habitat. Avoided areas containing species shall be fenced with orange construction fencing. • ***PLANT-2 (Rare Plant Protection):*** *If a rare plant listed in AMM PLANT-1 is detected within an area proposed to be disturbed by a Covered Activity or is detected within 250 feet of the area proposed to be disturbed by a Covered Activity, the Implementing Entity will assure one unprotected occurrence of the species is protected within a SSHCP Preserve before any ground disturbance occurs at the project site.*	
4.2-2 Have a substantial adverse effect, either directly or through habitat modifications, on special-status invertebrates	S	*4.2-2(a)* *Prior to initiation of ground-disturbing activities, the project applicant shall submit a South Sacramento Habitat Conservation Plan (SSHCP) permit application package to the City of Rancho Cordova to request that the incidental take coverage provided by City's SSHCP Incidental Take Permit (ITP) be extended to the proposed activities. The City of Rancho Cordova shall review the SSHCP permit application for consistency with all of the SSHCP requirements and provide the South Sacramento Conservation Agency with a copy of the SSHCP requirements for tracking purposes. The project applicant shall be responsible for paying all SSHCP development fees associated with obtaining*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		coverage from the City of Rancho Cordova. Any proposal to provide land in fee title, or provide a conservation easement in lieu of paying all or part of the required SSHCP development fees, shall include a consistency analysis in the application that sufficiently shows that the proposal is consistent with the SSHCP Conservation Strategy. *4.2-2(b) The project applicant shall comply with SSHCP requirements and all relevant AMMs set forth in the SSHCP Permit obtained for the proposed project.* *4.2-2(c) Prior to approval of grading and improvement plans and prior to initiation of any groundbreaking activity associated with the proposed project, or timed as required by the applicable permits if the proposed project is constructed in phases, the project applicant shall ensure that mitigation for impacts to aquatic features and other habitat for special-status species has been implemented through the SSHCP In-Lieu Fee Program or by other methods agreeable to the USACE, RWQCB, USFWS, CDFW, City, and South Sacramento Conservation Agency as appropriate, depending on agency jurisdiction*	
4.2-3 Have a substantial adverse effect, either directly or through habitat modifications, on special-status amphibian species.	S	*Western Spadefoot* *4.2-3(a) The project applicant shall comply with SSHCP AMMs WS-1 through WS-6.* • ***WS-1 (Western Spadefoot Work Window):*** *Ground-disturbing Covered Activities within*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		western spadefoot modeled habitat (Figure 3-17 [of the SSHCP]) will occur outside the breeding and dispersal season (after May 15 and before October 15), to the maximum extent practicable. • ***WS-2 (Western Spadefoot Exclusion Fencing):*** *If Covered Activities must be implemented in modeled habitat (Figure 3-17) after October 15 and before May 15, exclusion fencing will be installed around the project footprint before October 15, and the project site must be monitored by an approved biologist following rain events. Temporary high- visibility construction fencing will be installed along the edge of work areas, and silt fencing will be installed immediately behind the temporary high-visibility construction fencing to exclude western spadefoot from entering the construction area. Fencing will remain in place until all construction activities within the construction area are completed. No project activities will occur outside the delineated project footprint. If a western spadefoot is encountered, refer to WS-6, below.* • ***WS-3 (Western Spadefoot Monitoring):*** *If Covered Activities must be implemented in modeled habitat (Figure 3-17 [of the SSHCP])*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		in the breeding and dispersal season (after October 15 and before May 15), an approved biologist experienced with western spadefoot identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction- related activities are taking place, and will inspect the project site daily for western spadefoot prior to construction activities. The approved biologist will also train construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western spadefoot enters an active construction zone (i.e., outside the buffer zone). If a western spadefoot is encountered, refer to WS-6, below. • ***WS-4 (Avoid Western Spadefoot Entrapment):*** *If a Covered Activity occurs in western spadefoot modeled habitat (Figure 3-17 [of the SSHCP]), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western spadefoot modeled habitat will be inspected for western spadefoot by the approved biologist prior to being moved. If a western spadefoot is encountered, refer to WS-6 below. • ***WS-5 (Erosion Control Materials in Western Spadefoot Habitat):*** *If erosion control (BMP-2) is implemented within western spadefoot modeled habitat (Figure 3-17 [of the SSHCP]), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that western spadefoots are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.* *Western Pond Turtle* *4.2-3(b) Prior to initiation of ground-disturbing activities, pre-construction surveys shall be conducted per SSHCP AMM WPT-1. If western pond turtles are detected, WPT-2 through WPT-9 shall be implemented.*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• ***WPT-1 (Western Pond Turtle Surveys):*** *If the SSHCP western pond turtle modeled habitat maps (Figure 3-19 [of the SSHCP]) show that modeled habitat for western pond turtle is present within a Covered Activity's project footprint or within 300 feet of a project footprint, then an approved biologist will conduct a field investigation to delineate western pond turtle aquatic habitat within the project footprint and within 300 feet of the project footprint. In addition to the SSHCP land cover types shown in Figure 3-19 (of the SSHCP), western pond turtle aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, and rice fields. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential sites and provide those maps to the Local Land Use Permittees and the Implementing Entity. Locations of delineated western pond turtle habitat must also be noted on plans that are submitted to a Local Land Use Permittee. The applicant will use this information to finalize project design. Covered Activities may occur throughout the year as long as western pond turtle habitat is identified and fully avoided. Otherwise,*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Covered Activities must comply with WPT-2 through WPT-9. See Chapter 10 (of the SSHCP) for the process to conduct and submit survey information. • ***WPT-2 (Western Pond Turtle Work Window):*** *Maintenance and improvements to existing structures may occur throughout the year as long as western pond turtle habitat is identified and avoided, and movement of equipment is confined to existing roads. Otherwise, construction and ground-disturbing Covered Activities must be conducted outside of western pond turtle's active season. Construction and ground-disturbing activities will be initiated after May 1 and will commence prior to September 15. If it appears that construction activities may go beyond September 15, the appropriate Plan Permittee will contact the Local Land Use Permittee and the Implementing Entity as soon as possible, but not later than September 1, to determine if additional measures are necessary to minimize take.* • ***WPT-3 (Western Pond Turtle Monitoring):*** *If a Covered Activity is occurring in western pond turtle modeled habitat (Figure 3-19 [of the SSHCP]), an approved biologist experienced with western pond turtle*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for western pond turtle prior to construction activities. The approved biologist will also training construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western pond turtle enters an active construction zone (i.e., outside the buffer zone). • ***WPT-4 (Western Pond Turtle Habitat Dewatering and Exclusion):*** *If construction activities will occur in western pond turtle aquatic habitat, aquatic habitat for the turtle will be dewatered and then remain dry and absent of aquatic prey (e.g., crustaceans and other aquatic invertebrates) for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to western pond turtle. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent turtles from attempting to burrow or move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Western pond turtle habitat outside construction fencing will be avoided by all construction personnel. The fencing and work area will be inspected by the approved biologist to ensure that the fencing is intact and that no turtles have entered the work area before the start of each work day. Fencing will be maintained by the contractor until completion of the project. If, after exclusion fencing and dewatering, western pond turtles are found within the project footprint or within 300 feet of the project footprint, the Third-Party Project Proponent will discuss the next best steps with the Implementing Entity and Wildlife Agencies. • ***WPT-5 (Avoid Western Pond Turtle Entrapment):*** *If a Covered Activity occurs within western pond turtle modeled habitat*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		(Figure 3-19 [of the SSHCP]), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western pond turtle modeled habitat will be inspected for western pond turtle by the approved biologist prior to being moved. • ***WPT-6 (Erosion Control Materials in Western Pond Turtle Habitat):*** *If erosion control (BMP-2) is implemented within western pond turtle modeled habitat (Figure 3-19 [of the SSHCP]), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that turtles are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• ***WPT-7 (Western Pond Turtle Modeled Habitat Speed Limit):*** *Covered Activity construction and maintenance vehicles will observe a 20-mile-per-hour speed limit within western pond turtle modeled upland habitat (Figure 3-19 [of the SSHCP]).* • ***WPT-8 (Western Pond Turtle Encounter Protocol):*** *If a western pond turtle is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the turtle, within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service immediately. Any worker who inadvertently injures or kills a western pond turtle or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• ***WPT-9 (Western Pond Turtle Post-Construction Restoration):*** *After completion of ground- disturbing Covered Activities, the applicant will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes such activities as re-vegetating the banks and active channels with a seed mix similar to pre-project conditions. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the Implementing Entity. Restoration work may include replanting emergent aquatic vegetation and placing appropriate artificial or natural basking areas in waterways and wetlands. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.*	
4.2-4 Have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl.	S	*4.2-4* *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs WBO-2 through WBO-7. If western burrowing owl is found within the survey area, WBO-3 through 7 shall be implemented as required based on the results of surveys conducted per WBO-2.* • ***WBO-1 (Western Burrowing Owl Surveys):*** *Surveys within modeled habitat*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		are required for both the breeding and non-breeding season. If the project site falls within modeled habitat, an approved biologist will survey the project site and map all burrows, noting any burrows that may be occupied. Occupied burrows are often (but not always) indicated by tracks, feathers, egg shell fragments, pellets, prey remains, and/or excrement. Surveying and mapping will be conducted by the approved biologist while walking transects throughout the entire project site plus all accessible areas within a 250-foot radius from the project site. The centerline of these transects will be no more than 50 feet apart and will vary in width to account for changes in terrain and vegetation that can preclude complete visual coverage of the area. For example, in hilly terrain with patches of tall grass, transects will be closer together, and in open areas with little vegetation, they can be 50 feet apart. This methodology is consistent with current survey protocols for this species (California Burrowing Owl Consortium 1993). Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If suitable habitat is identified during the initial survey, and if the project does not fully avoid the habitat, pre-construction surveys will be	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		required. Burrowing owl habitat is fully avoided if project-related activities do not impinge on a 250- foot buffer established by the approved biologist around suitable burrows. See Chapter 10 (of the SSHCP) for the process to conduct and submit survey information. • ***WBO-2 (Western Burrowing Owl Pre-Construction Surveys):*** *Prior to any Covered Activity ground disturbance, an approved biologist will conduct pre-construction surveys in all areas that were identified as suitable habitat during the initial surveys. The purpose of the pre-construction surveys is to document the presence or absence of burrowing owls on the project site, particularly in areas within 250 feet of construction activities. To maximize the likelihood of detecting owls, the pre-construction survey will last a minimum of 3 hours. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total), or begin 2 hours before sunset and continue until 1 hour after sunset. Additional time may be required for large project sites. A minimum of two pre-construction surveys will be conducted (if owls are detected on the first survey, a second survey is not needed). All owls*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		observed will be counted and their location will be mapped. Surveys will conclude no more than 2 calendar days prior to construction. Therefore, the Third-Party Project Proponent must begin surveys no more than 4 days prior to construction (2 days of surveying plus up to 2 days between surveys and construction). To avoid last-minute changes in schedule or contracting that may occur if burrowing owls are found, the Third-Party Project Proponent may also conduct a preliminary survey up to 15 days before construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than 2 calendar days in advance of construction. • ***WBO-3 (Burrowing Owl Avoidance):*** *If western burrowing owl or evidence of western burrowing owl is observed on the project site or within 250 feet of the project site during pre-construction surveys, then the following will occur:* ***During Breeding Season:*** *If the approved biologist finds evidence of western burrowing owls within a project site during the breeding season (February 1 through August 31), all project-related activities will avoid nest sites*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		during the remainder of the breeding season or while the nest remains occupied by adults or young (nest occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance is establishment of a minimum 250-foot buffer zone around nests. Construction and other project-related activities may occur outside of the 250-foot buffer zone. Construction and other project-related activities may be allowed inside of the 250-foot non-disturbance buffer during the breeding season if the nest is not disturbed, and the Third-Party Project Proponent develops an avoidance, minimization, and monitoring plan that is approved by the Implementing Entity and Wildlife Agencies prior to project construction based on the following criteria: o *The Implementing Entity and Wildlife Agencies approve of the avoidance and minimization plan provided by the project applicant.* o *An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).* o *The same approved biologist monitors the owls during*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		construction and finds no change in owl nesting and foraging behavior in response to construction activities. *If there is any change in owl nesting and foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer. Construction cannot resume within the 250-foot buffer until any owls present are no longer affected by nearby construction activities, and with written concurrence from the Wildlife Agencies.* *If monitoring by the approved biologist indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use, the non-disturbance buffer zone may be removed if approved by the Wildlife Agencies. The approved biologist will excavate the burrow in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl to prevent reoccupation after receiving approval from the Wildlife Agencies.* *The Implementing Entity and Wildlife Agencies will respond to a request from the Third-Party Project Proponent to review the*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		proposed construction monitoring plan within 21 days. ***During Non-Breeding Season:*** *During the non-breeding season (September 1 through January 31), the approved biologist will establish a minimum 250-foot non-disturbance buffer around occupied burrows. Construction activities outside of this 250-foot buffer will be allowed. Construction activities within the non-disturbance buffer will be allowed if the following criteria are met to prevent owls from abandoning over- wintering sites:* o *An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).* o *The same approved biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.* o *If there is any change in owl foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer.*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		o *If the owls are gone for at least 1 week, the Third-Party Project Proponent may request approval from the Implementing Entity and Wildlife Agencies that an approved biologist excavate usable burrows and install one-way exclusionary devices to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue.* *Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.* • ***WBO-4 (Burrowing Owl Construction Monitoring):*** *During construction of Covered Activities, 250-foot construction buffer zones will be established and maintained around any occupied burrow. An approved biologist will monitor the site to ensure that buffers are enforced and owls are not disturbed. The approved biologist will also train construction personnel on avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• ***WBO-5 (Burrowing Owl Passive Relocation):*** *Passive relocation is not allowed without the express written approval of the Wildlife Agencies. Passive owl relocation may be allowed on a case-by-case basis on project sites during the non-breeding season (September 1 through January 31) with the written approval of the Wildlife Agencies if the other measures described in this condition preclude work from continuing. Passive relocation must be done in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl. Passive relocation will only be proposed if the burrow needing to be removed or with the potential to collapse from construction activities is the result of a Covered Activity. If passive relocation is approved by the Wildlife Agencies, an approved biologist can passively exclude birds from their burrows during the non-breeding season by installing one-way doors in burrow entrances. These doors will be in place for 48 hours to ensure that owls have left the burrow, and then the biologist will excavate the burrow to prevent reoccupation. Burrows will be excavated using hand tools only. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure into the burrow to avoid having materials collapse into the*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		burrow and trap owls inside. Other methods of passive relocation, based on best available science, may be approved by the Wildlife Agencies over the 50-year Permit Term. • ***WBO-6 (Burrowing Owl Timing of Maintenance Activities):*** *All activities adjacent to existing or planned Preserves, Preserve Setbacks, or Stream Setback areas will be seasonally timed, when safety permits, to avoid or minimize adverse effects on occupied burrows.* • ***WBO-7 (Rodent Control):*** *Rodent control will be allowed only in developed portions of a Covered Activity project site within western burrowing owl modeled habitat. Where rodent control is allowed, the method of rodent control will comply with the methods of rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.*	
4.2-5 Have a substantial adverse effect, either directly or through habitat modifications, on raptors and nesting birds.	S	*4.2-5(a)* *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs RAPTOR-2 through RAPTOR-4. Raptor surveys conducted per RAPTOR-2 shall include surveying for golden eagle although it is not a SSHCP Covered Species. If raptor species (including golden eagles) are found nesting within the survey area, RAPTOR-3 and RAPTOR-4 shall be implemented as required*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		based on the results of surveys conducted per RAPTOR-2. The following AMMs do not apply to Swainson's hawk or burrowing owl, as specific AMMs have been developed for such covered raptor species and are included in separate mitigation measures. • ***RAPTOR-2 (Raptor Pre-Construction Surveys):*** *Pre-construction surveys will be required to determine if active nests are present with a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites are found during initial surveys and construction activities will occur during the raptor breeding season. An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground- disturbing activities within the proposed project footprint and within 0.25 mile of the proposed project footprint to determine presence of nesting covered raptor species. Pre- construction surveys will be conducted during the raptor breeding season. If a nest is present, then RAPTOR-3 and RAPTOR-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.* • ***RAPTOR-3 (Raptor Nest/Roost Buffer):*** *If active nests are found within the project*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25 mile temporary nest disturbance buffer around the active nest until the young have fledged. • ***RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring):*** *If project-related Covered Activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an approved biologist experienced with raptor behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone (i.e., outside the buffer zone). *4.2-5(b)* *A qualified biologist shall conduct a preconstruction nesting bird survey of all areas associated with construction activities, and a 100-foot buffer around such areas, within 14 days prior to commencement of construction if construction occurs during the nesting season (February 1 through August 31). If active nests are found for any SSHCP Covered Species, the applicable SSHCP AMM(s) TCB-3 through -5, SWHA-3 through -4, WBO-3 through-6, and RAPTOR-3 through-4 shall be implemented. If active nests are found for any other species, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with the CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest, to be determined by a qualified biologist. Once the young are independent of the nest, further measures are not necessary.*	
4.2-6 Have a substantial adverse effect, either directly or	S	*4.2-6* *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
through habitat modifications, on Swainson's hawk.		*SWHA-2 through SWHA-4. If Swainson's hawk nesting is found within the survey area during the pre-construction survey conducted per SWHA-2, then SWHA-3 and SWHA-4 shall be implemented as required based on the results of surveys conducted per SWHA-2.* • ***SWHA-2 (Swainson's Hawk Pre-Construction Surveys):*** *Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites were found during initial surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities to determine presence of nesting Swainson's hawk. Pre-construction surveys will be conducted during the breeding season (March 1 through September 15). If a nest is present, then SWHA-3 and SWHA-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• ***SWHA-3 (Swainson's Hawk Nest Buffer):*** *If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25-mile disturbance buffer around the active nest until the young have fledged, with concurrence from the Wildlife Agencies.* • ***SWHA-4 (Swainson's Hawk Nest Buffer Monitoring):*** *If nesting Swainson's hawks are present within the project footprint or within 0.25 mile of any project-related Covered Activity, then an approved biologist experienced with Swainson's hawk behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting Swainson's hawks begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist will have the authority to shut down construction activities. If agitated*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a Swainson's hawk flies into an active construction zone (i.e., outside the buffer zone).	
4.2-7 Have a substantial adverse effect, either directly or through habitat modifications, on tricolored blackbird.	S	*4.2-7 Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs TCB-2 through TCB-5. If tricolored blackbirds are found within the survey area during the pre-construction survey conducted per TCB-2, then TCB-3 through TCB-5 shall be implemented as required based on the results of surveys conducted per TCB-2.* • ***TCB-2 (Tricolored Blackbird Pre-Construction Surveys):*** *Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 500 feet of a project footprint if existing or potential nest sites were found during design surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and within 3 days of*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		ground-disturbing activities, and within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence of nesting tricolored blackbird. Pre-construction surveys will be conducted during the breeding season (March 1 through August 31). Surveys conducted in February (to meet pre-construction survey requirements for work starting in March) must be conducted within 14 days and 3 days in advance of ground-disturbing activities. If a nest is present, then TCB-3 and TCB-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and the Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies. • ***TCB-3 (Tricolored Blackbird Nest Buffer):*** *If active nests are found within the project footprint or within 500 feet of any project-related Covered Activity, the Third-Party Project Proponent will establish a 500-foot temporary buffer around the active nest until the young have fledged.* • ***TCB-4 (Tricolored Blackbird Nest Buffer Monitoring):*** *If nesting tricolored blackbirds are present within the project footprint or within 500 feet of any project-related Covered*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Activity, then an approved biologist experienced with tricolored blackbird behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that tricolored blackbirds are exhibiting agitated behavior, construction will cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting tricolored blackbirds. If the biologist determines that the colonies are at risk, a meeting with the Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will be held to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone).	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• ***TCB-5 (Timing of Pesticide Use and Harvest Timing on Agricultural Preserves):*** *On SSHCP Agricultural Preserves, pesticides (including herbicides) will not be applied from January 1 through July 15.*	
4.2-8 Have a substantial adverse effect, either directly or through habitat modifications, on special-status bats.	S	*4.2-8 Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs BAT-2 through BAT-4. Winter hibernaculum surveys conducted per BAT-2 shall also include surveying for pallid bat although it is not an SSHCP Covered Species. If winter hibernacula of western red bat or pallid bat are found within the survey area, then BAT-3 through BAT-4 shall be implemented as required based on the results of surveys conducted per BAT-2.* • ***BAT-2 (Winter Hibernaculum Pre-Construction Surveys):*** *If the Third-Party Project Proponent elects not to avoid potential winter hibernaculum sites within the project footprint plus a 300-foot buffer, additional surveys are required. Prior to any ground disturbance related to Covered Activities, an approved biologist will conduct a pre- construction survey within 3 days of ground-disturbing activities within the project footprint and 300 feet of the project footprint to determine the presence of winter hibernaculum sites. Pre-construction surveys*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		will be conducted during the winter hibernaculum season (November 1 through March 31). If a winter hibernaculum is present, then BAT-3 and BAT-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies. • ***BAT-3 (Winter Hibernaculum Buffer):*** *If active winter hibernaculum sites are found within the project footprint or within 300 feet of the project footprint, the Third-Party Project Proponent will establish a 300-foot temporary disturbance buffer around the active winter hibernaculum site until bats have vacated the hibernaculum and the Implementing Entity and Wildlife Agencies concur.* • ***BAT-4 (Bat Eviction Methods):*** *An approved biologist will determine if non-maternity and non-hibernaculum day and night roosts are present on the project site. If necessary, an approved biologist will use safe eviction methods to remove bats if direct impacts to non-maternity and non-hibernaculum day and night roosts cannot be avoided. If a winter hibernaculum site is present, Covered Activities will not occur until*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the hibernaculum is vacated, or, if necessary, safely evicted using methods acceptable to the Wildlife Agencies.	
4.2-9 Have a substantial adverse effect, either directly or through habitat modifications, on American badger.	S	*4.2-9* *A qualified biologist shall conduct a preconstruction survey for American badger within 14 days prior to commencement of construction, and results of the survey shall be provided to the City's Community Development Department. If badgers or dens with signs of recent badger use are detected (i.e., fresh scat, claw marks), CDFW shall be consulted and a non-disturbance buffer shall be established around any active dens. The den(s) shall be monitored daily by the qualified biologist during construction. Work shall not occur within the non-disturbance buffer until the qualified biologist determines that the badger(s) have left the work area, or as determined in consultation with CDFW.*	LS
4.2-10 Have a substantial adverse effect on riparian habitat or other sensitive natural community, or State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	S	*4.2-10(a)* *Prior to approval of grading and improvement plans and prior to initiation of any groundbreaking activity associated with the proposed project, the project applicant shall ensure that authorization pursuant to Clean Water Act (CWA) Section 404 from the U.S. Army Corps of Engineers (USACE) and CWA Section 401 from the Central Valley Regional Water Quality Control Board (RWQCB) is obtained. CWA Section 404 authorization is anticipated to be obtained through a Letter of Permission issued by USACE under the SSHCP ARP, and CWA Section 401 authorization is anticipated to be obtained through an individual Water*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Quality Certification issued by the RWQCB under the SSHCP ARP. *The construction contractor shall adhere to all conditions outlined in the permits. The project applicant shall ensure that the proposed project replaces, restores, or enhances on a "no net loss" basis (in accordance with the USACE and the Central Valley RWQCB) the acreage of all wetlands and other waters of the U.S. that would be removed, lost, and/or degraded due to project implementation, either through the SSHCP In-Lieu Fee Program or by other methods agreeable to the 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.* *4.2-10(b) Prior to approval of grading and improvement plans and prior to initiation of any groundbreaking activity associated with the proposed project, the project applicant shall ensure that a CDFW 1602 Streambed Alteration Agreement has been obtained. The construction contractor shall adhere to all conditions outlined in the Streambed Alteration Agreement.* *4.2-10(c) The project applicant shall comply with SSHCP AMM STREAM-2 and a 100-foot setback from Morrison Creek shall be established. Only allowed compatible*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		uses described in the SSHCP shall be sited within the setback. • ***STREAM-2 (UDA Stream Setbacks):*** *A 100-foot setback measured from the top of the bank on both sides of the stream channel will be applied to all streams listed in Table 5-1 (see Table 4.2-3 below) (see also Figure 2-4 [of the SSHCP]). If a stream reach supports woody riparian vegetation, the setback will be equal to the riparian edge plus 25 feet or will be the setback defined above, whichever is greater. If trails are located within the Stream Setback, the nearest edge of the trail will be located at least 50 feet from the top of the bank.*	

Table 4.2-3
Stream Setback Minimum Requirements in the Urban Development Area

Stream	Minimum Setback (from the Top of Bank Measured in Aerial Perspective) on Both Sides of the Stream
Elder Creek	100 feet
Frye Creek	100 feet or as depicted as part of the NewBridge development project hardline Preserve (see SSHCP Appendix K)
Gerber Creek	100 feet
Morrison Creek	100 feet

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Central Paseo: 100 feet or as depicted as part of the Cordova Hills development project hardline Preserve (see SSHCP Appendix K) Sun Creek: 100 feet or as depicted as part of the Sun Creek development project hardline Preserve (see SSHCP Appendix K) *4.2-10(d) Implement Mitigation Measure 4.2-2(c).*	
4.2-11 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LS	*None required.*	N/A
4.2-12 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	S	*4.2-12 Prior to removal of any protected trees (as defined by Chapter 19.12 of the City's Municipal Code) within the project site and off-site improvement areas, a tree removal permit shall be procured from the City. In addition, tree species that are native to the Central Valley and Sierra Nevada foothills such as interior live oak (Quercus wislizeni), valley oak (Quercus lobata), blue oak (Quercus douglasii), Fremont cottonwood (Populus fremontii), black walnut (Juglans hindsii), and western redbud (Cercis occidentalis) shall be incorporated into the planned landscaping design in public spaces such as open space, parks, and parkways. Enough plantings of such native trees shall be incorporated into the landscaping such that the*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		number of surviving native trees after five years is equal to or greater than the number of non-native trees removed. Landscaping plans detailing the tree species to be planted shall be provided to the City for approval prior to tree removal.	
4.2-13 Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan.	LS	*None required.*	N/A
4.2-14 Cumulative loss of habitat for special-status species.	CC & S	*4.2-14 Implement Mitigation Measures 4.2-1 through 4.2-11.*	LCC
4.3 Cultural and Tribal Resources			
4.3-1 Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5.	LS	*None required.*	N/A
4.3-2 Cause a substantial adverse change in the significance of a unique archeological resource pursuant to CEQA Guidelines, Section 15064.5 or disturb human remains, including those interred outside of dedicated cemeteries.	S	*4.3-2 The following requirements shall be included through a notation on all project improvement plans prior to the issuance of grading permits, to the satisfaction of the City Engineer.* *In the event subsurface deposits believed to be cultural or human in origin are discovered during construction, all work shall halt within a 50-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for precontact and historic archaeologist, shall be retained to*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • *If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and agency notifications are not required.* • *If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the City of Rancho Cordova and applicable landowner. The project applicant shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Appropriate treatment measures that preserve or restore the character and integrity of a find may be, but are not limited to, processing materials for reburial, minimizing handling of historical objects, leaving objects in place within the landscape, construction monitoring of further construction activities, and/or returning objects to a location within the project area*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		where they will not be subject to future impacts. Work shall not resume within the no-work radius until the applicant, through consultation, as appropriate, determines that the site either: 1) is not a historical resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to the City's satisfaction. • *If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the City of Rancho Cordova and the Sacramento County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 shall be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner shall notify the NAHC, which then shall designate a Native American Most Likely Descendant (MLD) for the proposed project (Section 5097.98 of the PRC). The designated MLD shall have 48 hours from the time access to the property is granted to make recommendations concerning*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC shall mediate (Section 5097.94 of the PRC). If an agreement is not reached, the landowner shall rebury the remains where they shall not be further disturbed (Section 5097.98 of the PRC). The burial shall also include either recording the site with the NAHC or the appropriate information center, using an open space or conservation zoning designation or easement, or recording a reinternment document with Sacramento County (AB 2641). Work shall not resume within the no-work radius until the City, through consultation as appropriate, determines that the treatment measures have been completed to their satisfaction.	
4.3-3 Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	S	*4.3-3(a)* *Implement Mitigation Measures 4.3-2.* *4.3-3(b)* *Prior to initiation of ground-disturbing activities associated with the proposed project, a consultant and construction worker tribal cultural resources awareness brochure and training program for all personnel involved in project implementation shall be developed in coordination with interested Native American Tribes. The brochure shall be distributed and the training shall be conducted in coordination with qualified cultural resources specialists and Native American Representatives and Monitors from*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		culturally affiliated Native American Tribes before any stages of project implementation and construction activities begin on the project site. The program shall include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The worker cultural resources awareness program shall also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and shall outline what to do and whom to contact if any potential tribal cultural resources are encountered. The program shall also underscore the requirement for confidentiality and culturally-appropriate treatment of any find of significance to Native Americans and behaviors, consistent with Native American Tribal values. Documentation of the brochure and training program (i.e., a sign-in sheet) shall be submitted along with all applicable reports to the City's Community Development Department. *4.3-3(c) Prior to the start of ground-disturbing activities associated with the proposed project, the project applicant and construction contractor(s) shall implement the following measures to minimize the potential for destruction of or damage to existing or previously undiscovered burials, archaeological, and tribal cultural resources and to identify any such*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		resources at the earliest possible time during project-related earthmoving activities: • *Native American monitors from culturally affiliated Native American Tribes shall be invited to monitor the vegetation grubbing, stripping, grading or other ground-disturbing activities in the project area to determine the presence or absence of any cultural resources. Native American representatives from cultural affiliated Native American Tribes act as a representative of their Tribal government and shall be consulted before any ground-disturbing activities begin.* • *Native American representatives and Native American monitors have the authority to identify sites or objects of significance to Native Americans and to request that work be stopped, diverted or slowed if such sites or objects are identified within the direct impact area. Only a Native American representative shall recommend appropriate treatment of such sites or objects.* *Compliance with the aforementioned measures shall be documented and submitted with applicable reports to the City's Community Development Department.* *4.3-3(d) Develop a standard operating procedure, points of contact, timeline and schedule for the project so all*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		possible damages can be avoided or alternatives and cumulative impacts properly accessed. *If potential tribal cultural resources, archaeological resources, other cultural resources, articulated, or disarticulated human remains are discovered by Native American Representatives or Monitors from interested Native American Tribes, qualified cultural resources specialists or other project personnel during construction activities, work shall cease in the immediate vicinity of the find (based on the apparent distribution of cultural resources), whether or not a Native American Monitor from an interested Native American Tribe is present. A qualified cultural resources specialist and Native American Representatives and Monitors from culturally affiliated Native American Tribes shall assess the significance of the find and make recommendations for further evaluation and treatment as necessary. These recommendations shall be documented in the project record.* *If adverse impacts to tribal cultural resources, unique archeology, or other cultural resources occurs, then consultation with Wilton Rancheria regarding mitigation contained in the Public Resources Code Sections 21084.3(a) and (b) and CEQA Guidelines Section 15370 shall occur, in order to coordinate for compensation for the impact by replacing or providing substitute resources or environments.*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.3-4 Cause a cumulative loss of cultural resources.	LS	*None required.*	N/A
4.4 Geology and Soils/Mineral Resources			
4.4-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.	LS	*None required.*	N/A
4.4-2 Result in substantial soil erosion or the loss of topsoil.	LS	*None required.*	N/A
4.4-3 Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code.	PS	*4.4-3 The Improvement Plan submittal shall include a final geotechnical engineering report produced by a California Registered Civil Engineer or Geotechnical Engineer for review and approval by the Rancho Cordova Community Development Department. The report shall address and make recommendations on the following:* *A. Road, pavement, and parking area design;* *B. Structural foundations, including retaining wall design (if applicable);* *C. Grading practices;* *D. Erosion/winterization;* *E. Special problems discovered on-site, (i.e., open bodies of water, expansive/unstable soils, etc.); and*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		F. Slope stability. *Once approved by the Rancho Cordova Community Development Department, two copies of the final report shall be provided to the Rancho Cordova Community Development Department and one copy to the Rancho Cordova Building and Safety Division for its use. It is the responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.*	
4.4-4 Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State or of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	LS	*None required.*	N/A
4.4-5 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	S	*4.4-5 Should construction or grading activities result in the discovery of unique paleontological resources, all work within the vicinity of the discovery shall cease. The City of Rancho Cordova Community Development Department shall be notified, and the resources shall be examined by a qualified paleontologist at the developer's expense, for the purpose of recording, protecting, or curating the discovery as appropriate. The paleontologist shall submit to the Community*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Development Department for review and approval a report of the findings and method of curation or protection of the resources. Work may only resume in the area of discovery when the preceding work has occurred.	
4.4-6 Cumulative impacts to geology and soils, mineral resources, and paleontological resources.	LS	*None required.*	N/A
4.5 Hazards and Hazardous Materials			
4.5-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	*None required.*	N/A
4.5-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	S	*4.5-2(a) Prior initiation of demolition or construction activities associated with the proposed project, the project applicant shall complete and submit, for both the underground storage units identified on APNs 073-0010-011 and 072-0300-008, a Consolidated Application For Authority to Remove Under Ground Storage Tanks to the Sacramento County Environmental Management Department (EMD) for review. Upon issuance of a permit (Authority Letter to Remove) from the EMD, removal of the UST shall proceed in accordance with all permit conditions, including, but not limited to, inspection, testing, and plan/report submittal requirements.*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		4.5-2(b) *Prior initiation of demolition or construction activities associated with the proposed project, the project applicant shall retain a licensed contractor to remove the existing 55-gallon drum located on APN 072-0300-008, to the northeast of the existing residence. The drum shall be disposed of in accordance with all applicable federal, State, and local regulations related to the handling, transport, and disposal of hazardous waste. Proof of safe disposal shall be provided to the Community Development Department.* *4.5-2(c)* *Prior to issuance of a demolition permit for any on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Community Development Department an asbestos and lead survey. If asbestos-containing materials or lead-containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead containing materials shall not be required. If asbestos-containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the Community Development Department for review and approval. Materials containing more than one (1) percent asbestos that is friable are also subject to SMAQMD regulations. Removal of materials containing more than one (1) percent friable asbestos shall be completed in accordance with SMAQMD Rule 902. *4.5-2(d) Prior to issuance of a demolition permit for any on-site structures, the project applicant shall retain the services of a licensed environmental professional to prepared a Phase II Environmental Assessment (ESA) for the project site. The Phase II ESA shall evaluate, at a minimum, potential lead contamination in the soils in the vicinity of the structures located on APN 072-0300-008, as well as potential termiticide contamination in the soils in the vicinity of the wooden structures located on APN 072-0300-002 and APN 072-0300-008. In the event that the lead and/or termiticide contamination is determined to occur, the project applicant shall implement all recommended measures in the Phase II ESA necessary to address such hazards. Such measures may include, but shall not be limited to, capping contaminated soil in place and deed-restricting the subject property, excavation and off-haul of*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		contaminated soils by a licensed contractor, or other appropriate methods deemed acceptable by the Sacramento County Environmental Management Department (EMD). *4.5-2(e) Prior to Improvement Plan approval, the applicant shall hire a licensed well contractor to obtain a well abandonment permit from the Sacramento County Environmental Management Department (EMD) for all on-site wells, and properly abandon the on-site wells, pursuant to Department of Water Resources Bulletin 74-81 (Water Well Standards, Part III), for review and approval by the EMD. In addition, prior to Improvement Plan approval, the project applicant shall ensure that any on-site septic systems are abandoned in compliance with applicable EMD standards. Verification of abandonment shall be ensured by the City of Rancho Cordova Community Development Department.* *4.5-2(f) If unidentified or suspected contaminated soil or groundwater evidenced by stained soil, noxious odors, or other factors, is encountered during site preparation or construction activities at the project site, work shall stop in the area of potential contamination, and the type and extent of contamination shall be identified by a Registered Environmental Assessor (REA) or qualified professional. The REA or qualified professional shall prepare a report that includes, but is not limited to, activities performed for the assessment, summary of*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		anticipated contaminants and contaminant concentrations, relevant environmental screening levels for identified contaminants, whether the contaminants exceed ESLs, thus warranting remediation, and recommendations for appropriate handling and disposal. Site preparation or construction activities shall not recommence within the contaminated areas until any necessary remediation identified in the report is complete. The report and verification of proper remediation and disposal shall be submitted to the City of Rancho Cordova Community Development Department for review and approval.	
4.5-3 Cumulative exposure to potential hazards and increases in the transport, storage, and use of hazardous materials.	LS	*None required.*	N/A
4.6 Hydrology and Water Quality			
4.6-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction.	S	*4.6-1(a)* *Implement Mitigation Measure 4.4-2.* *4.6-1(b)* *Prior to the commencement of ground-disturbing activities, the project applicant shall submit, and obtain approval of, a Spill Prevention Countermeasure and Control Plan (SPCC) to the Sacramento County Environmental Management Department. The SPCC shall specify measures and procedures to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during all construction activities, and shall meet the requirements specified in the Code of Federal Regulations, Title 40, Part 112.*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.6-2 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations.	S	*4.6-2 Prior to approval of final project improvement plans, the project applicant shall submit a detailed Best Management Practice (BMP) and water quality maintenance plan to the City for review and approval. The BMP and water quality maintenance plan shall meet the standards of the City's NPDES Permit (No. CAS0085324), the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment, and the Stormwater Quality Design Manual for the Sacramento region. Site design measures, source control measures, hydromodification management, and Low Impact Development (LID) standards, as necessary, shall be incorporated into the design and shown on the improvement plans.* *4.6-3 Prior to approval of final project improvement plans, the project applicant shall submit a maintenance covenant to the City for review and approval. The maintenance covenant shall be executed to ensure the long-term maintenance of stormwater quality measures.*	LS
4.6-3 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin or conflict with or obstruct implementation of a water	LS	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	quality control plan or sustainable groundwater management plan.			
4.6-4	**Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.**	LS	*None required.*	N/A
4.6-5	**Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which**	LS	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	would impede or redirect flood flows.			
4.6-6	**Cumulative impacts related to the violation of water quality standards or waste discharge requirements, groundwater quality, management, and recharge, and impacts resulting from the alteration of existing drainage patterns.**	LS	*None required.*	N/A
4.7 Land Use and Planning / Population and Housing				
4.7-1	**Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**	LS	*None required.*	N/A
4.7-2	**Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure).**	LS	*None required.*	N/A
4.7-4	**Cause a significant cumulative environmental impact due to a conflict with any land use**	LS	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.			
4.7-5	**Cumulative unplanned population growth.**	LS	*None required.*	N/A
	4.8 Noise			
4.8-1	**Generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**	S	*4.8-1 The following criteria shall be noted on project Improvement Plans. Improvement Plans shall be submitted to the City's Community Development Department for review and approval.* • *Consistent with Section 6.68.090 of the Rancho Cordova Municipal Code, noise-generating construction activities shall be limited to the hours of 6:00 AM to 8:00 PM on weekdays and 7:00 AM to 8:00 PM on weekends.*	LS
4.8-2	**Generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**	LS	*None required.*	N/A
4.8-3	**Exposure of persons to or generation of excessive**	LS	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	groundborne vibration or groundborne noise levels.			
4.8-4	**Generation of a substantial permanent increase in ambient noise levels associated with cumulative development of the proposed project in combination with future buildout of the General Plan.**	LS	*None required.*	N/A
	4.9 Public Services and Utilities			
4.9-1	**Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.**	LS	*None required.*	N/A
4.9-2	**Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of**	LS	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.			
4.9-3	**Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools.**	LS	*None required.*	N/A
4.9-4	**Require or result in the relocation or construction of new or expanded water, wastewater treatment, or electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.**	LS	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.9-5 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LS	*None required.*	N/A
4.9-6 Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	LS	*None required.*	N/A
4.9-7 Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, or conflict with federal, state, and local management and reduction statutes and regulations related to solid waste.	LS	*None required.*	N/A
4.9-8 Cumulative impacts to fire and police protection services.	LCC	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.9-9 Cumulative impacts to public schools.	LCC	*None required.*	N/A
4.9-10 Cumulative impacts to utilities and service systems.	LCC	*None required.*	N/A
4.10 Transportation			
4.10-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	LS	*None required.*	N/A
4.10-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) under Existing Plus Project conditions.	S	*4.10-2(a) Prior to approval of Improvement Plans, the project applicant shall include in the Improvement Plan submittal a Trail System Plan detailing the applicant's construction of a portion of the regional trail system in the vicinity of the project site. The Trail System Plan shall be subject to review and approval by the City of Rancho Cordova Community Development Department.* *4.10-2(b) Prior to the recording of a Final Map, the project applicant shall pay a fair share contribution to provide monetary support for the City's transportation services, as determined by the City of Rancho Cordova Community Development Department. The charges for residential and nonresidential development will fund these transportation services as determined appropriate by the City Council. Supplemental*	SU

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		transportation services may include, but are not limited to, the following: • *Transit Shuttle – shuttle for residents and/or employees between residential areas, employment centers, shopping and service centers and light rail stations and/or other public transit options;* • *Guaranteed Ride Home – free taxi rides and rental cars for ride sharers in case of an emergency;* • *Transit Subsidies – financial assistance to encourage residents and employees to use transit or other alternative transportation measures;* • *Transportation Plans for employers and/or resident groups – plans which guide employers and resident groups on the implementation of trip reduction programs, such as ride share matching or other similar programs;* • *Education Programs – various programs such as education of transit options, home office set up, alternative commute opportunities;* • *Infrastructure Support – additional bike racks and lockers, transportation alternative and ride share informational boards/kiosks, and transit facilities;*	

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• *Transportation Coordinator Training and Support – instruction in mobility (transportation alternatives) for residential groups and work site coordinators; and* • *Bicycle and Alternative Fuel Vehicle Incentives – incentives for purchasing new bicycles or alternative fuel vehicles.*	
4.10-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LS	*None required.*	N/A
4.10-4 Result in inadequate emergency access.	LS	*None required.*	N/A
4.10-5 Conflict with a program, plan, ordinance, or policy addressing the circulation system under Cumulative Plus Project conditions.	LS	*None required.*	N/A
4.10-6 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) under Cumulative Plus Project conditions.	LS	*None required.*	N/A

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

3. Project Description

3. PROJECT DESCRIPTION

3.1 INTRODUCTION

The Project Description chapter of the EIR provides a comprehensive description of The Preserve Project (proposed project) in accordance with CEQA Guidelines. Please note that this chapter provides an overall general description of the existing environmental conditions; however, detailed discussions of the existing setting in compliance with CEQA Guidelines Section 15125, as it relates to each given potential impact area, is included in each technical chapter of this EIR.

3.2 PROJECT LOCATION

The project site consists of approximately 279.3 acres located within the City of Rancho Cordova. (see Figure 3-1). The site is located northwest of Raymer Way and Grant Line Road, north of the Sunridge Specific Plan area and east of the Rio Del Oro Specific Plan area (see Figure 3-2). The site is identified by Assessor's Parcel Numbers (APNs) 072-0300-001, -002, -005, -008, and 073-0010-010, and -011.

3.3 PROJECT SETTING AND SURROUNDING LAND USES

Section 15125 of CEQA Guidelines requires an EIR to include a description of the physical environmental conditions of the project site and the site vicinity, as they exist at the time the Notice of Preparation is published, from a local and regional perspective. Per CEQA Guidelines Section 15125, the description of the environmental setting shall not be longer than necessary to understand the potential significant effects of the project.

The following sections describe the existing setting of the project site and the surrounding land uses in the project vicinity. Please note that detailed discussions of the existing setting in compliance with CEQA Guidelines Section 15125, specific to each environmental resource area, are included in each corresponding technical chapter of this EIR.

Site Characteristics

Currently, the 279.3-acre project site contains two single-family residences and associated outbuildings on the southern portion of the site, within parcels 072-0300-002 and -005. An orchard is located within the northeastern portion of the site within parcel 073-0010-011, and a third single-family residence and associated outbuildings are located on APN 072-0300-008. The remainder of the site consists primarily of non-native grasses, with scattered trees located in the vicinity of the existing residences and associated access roads. The site is characterized by moderate rolling hills and flatlands interspersed with seasonal drainage corridors and wetlands. Additionally, Morrison Creek runs northeast to southwest through the project site. The elevation of the site ranges from 210 to 250 feet above mean sea level.

Per the City of Rancho Cordova General Plan, the project site is located within the Grant Line West Planning Area and is designated Natural Resources and Residential-Mixed Density. The site is zoned Agricultural (AG-80) and Industrial Reserve (IR)

Figure 3-1
Project Location

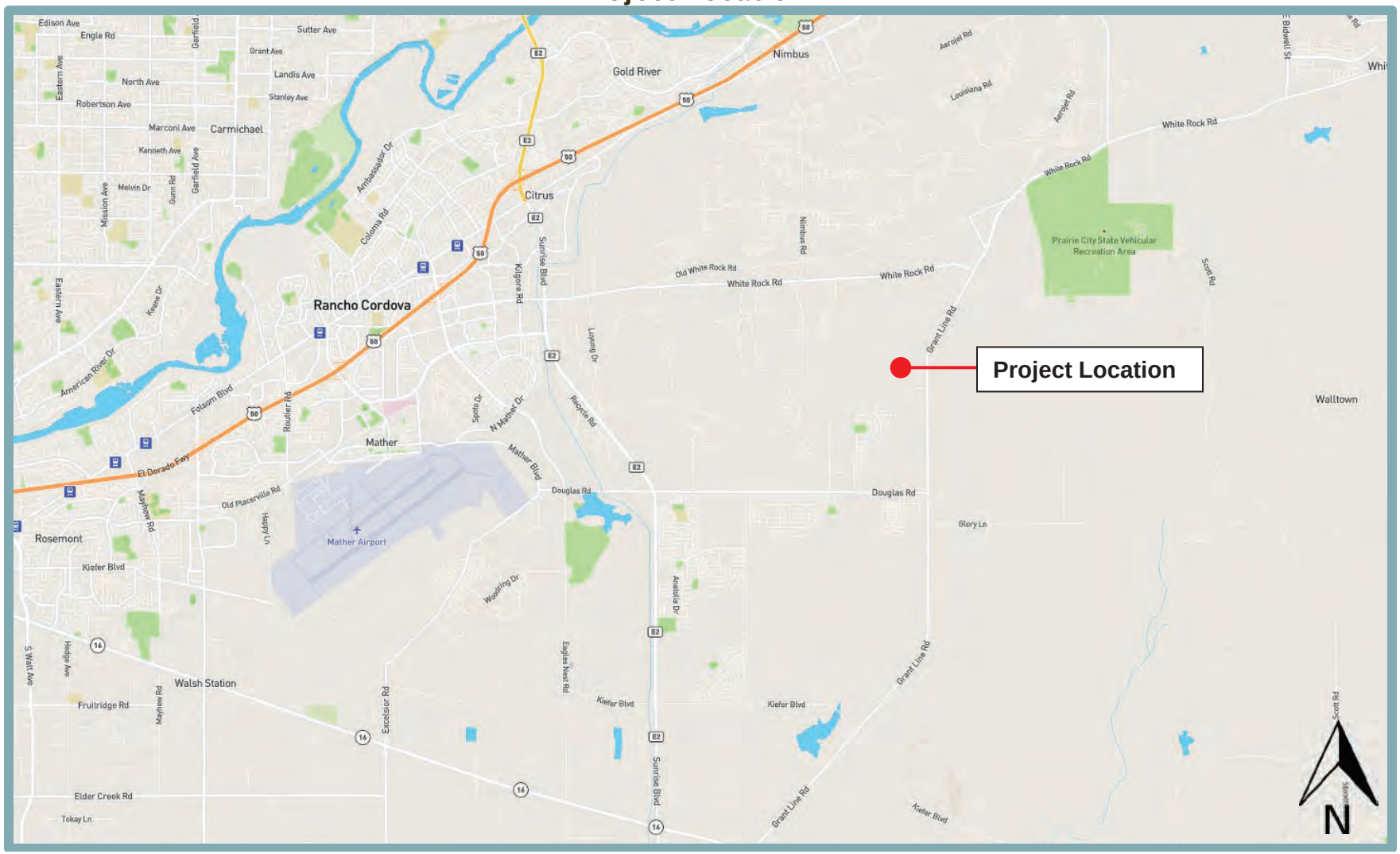
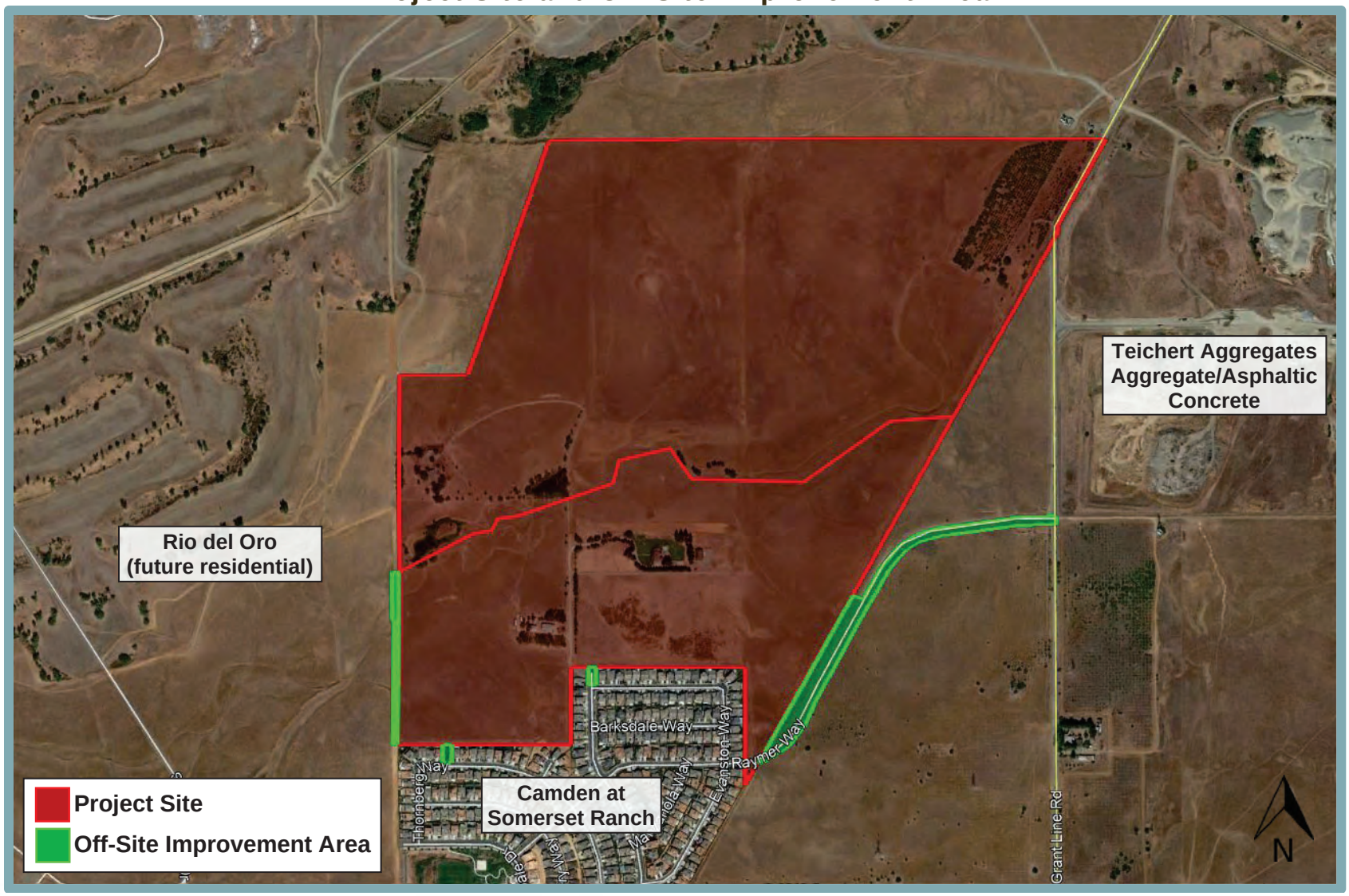


Figure 3-2
Project Site and Off-Site Improvement Area



Surrounding Land Uses

Surrounding land uses include the Camden at Somerset Ranch residential subdivision directly to the south, vacant agricultural lands under a Williamson Act contract and a Teichert Aggregates Aggregate/Asphaltic Concrete site across Grant Line Road to the east, industrial/open space to the north, and vacant land approved for the development of the Rio Del Oro residential community immediately adjacent to the west.

Vegetation and Wetlands

The following description focuses on the proposed area of disturbance, south of Morrison Creek. The area is covered in vernal pool grassland primarily composed of non-native annual grasses and forbs, with limited patchy riparian vegetation along Morrison Creek. An arborist report documented 247 trees within the area of disturbance, including coast redwood, eucalyptus, and other trees not native to the region. The area of disturbance contains approximately 7.9 acres of jurisdictional wetland, including seasonal wetlands and vernal pools.

3.4 PROJECT OBJECTIVES

The following project objectives have been developed by the project applicant for the proposed project:

1. Consolidate the remaining parcels in the Grant Line West Planning Area of the City of Rancho Cordova General Plan in a manner that concentrates development south of Morrison Creek to avoid and minimize potential conflicts with the South Sacramento Habitat Conservation Plan.
2. Develop a residential mixed-density community that is consistent with the General Plan conceptual land use designation for the Grant Line West Planning Area.
3. Develop a residential community that is contiguous to and compatible with adjacent existing development and that provides a range of housing choices.
4. Utilize existing utility capacity for maximum efficiency.
5. Develop a residential community that can provide timely housing to help meet current demand during a period of housing shortages in the region and throughout the State.
6. Contribute to the overall bicycle and pedestrian connectivity of the City by building key components of the regional trail system and providing strong connections for both existing and future residents.
7. Enhance the City's network of parks, trails and open spaces for the enjoyment of all residents.

3.5 PROJECT COMPONENTS

The proposed project would include subdivision of the project site to develop a total of 440 single-family lots and various associated improvements including, but not limited to, parks, landscaping, circulation improvements, and utility installation. The project would require City approval of the following: General Plan Amendments; Rezone; Development Agreement; and Tentative Subdivision Map. The details of the proposed project, including required approvals, are described in further detail below.

General Plan Amendments/Rezone

As noted previously, the project site is currently designated Residential-Mixed Density and Natural Resources in the Grant Line West Planning Area by the City of Rancho Cordova General Plan. The proposed project would require a General Plan Amendment to change the site's land use

designation from Natural Resources and Residential-Mixed Density within the Grant Line West Planning Area to Low-Density Residential. The General Plan Amendment would also amend the Circulation Element to alter the planned construction of Centennial Drive. Centennial Drive is a future roadway depicted in the Circulation Element's Circulation Plan with Roadway System and Sizing map (Figure C-1 in the Circulation Element). If constructed as depicted in the Circulation Element, Centennial Drive would be a four-lane roadway and run through the project site in an east-west direction; however, through approval of the General Plan Amendment, the portion within the project site would not be constructed. In addition, the project would require a rezone to change approximately 68.42 acres of the AG-80 and approximately 30.48 acres of the IR zoning designations to Residential District (RD-5), five dwelling units per acre maximum (see Figure 3-3).

Tentative Subdivision Map

The proposed project would include a Tentative Subdivision Map to subdivide the project site into 440 single-family residential lots (see Figure 3-4 through Figure 3-9). Lots on the western portion of the project site would generally be a minimum of 4,050 square feet (sf) (45 feet x 90 feet), with larger lots at the corners of each block. Lots in the central portion of the site would generally be a minimum of 5,775 sf (55 feet x 105 feet) with corner lots and others being larger, and lots in the eastern portion of the site would generally be a minimum of 4,725 sf (45 feet x 105 feet). Overall, the proposed lots would range from a minimum of 4,050 sf to a maximum of 9,416 sf. The units would include either an 18- or 20-foot setback from the front of the residence to the street. In addition, the proposed project would establish a 100-foot setback from Morrison Creek and would include park areas, community spaces, green infrastructure, and open space areas.

Development Agreement

The proposed project would include a Development Agreement to assure the City that the proposed project would be constructed and developed in compliance with the plans submitted by the applicant. Development Agreements increase the certainty in the approval of development projects, thereby preventing the waste of resources, reducing the cost of development, and encouraging investment in comprehensive planning.

Access and Circulation

The proposed project would include two entry points from Raymer Way, as well as connection to the existing Camden at Somerset Ranch subdivision by way of an extension of Edington Drive and a new connection to Thornburg Way. The streets would be between 32 and 50-feet wide (curb to curb), which would allow for emergency vehicle access within the minimum 20-foot street width requirement. The internal circulation system would consist of several drive aisles with circulation to all residences within the subdivision. The proposed project would include construction of five-foot attached sidewalks and three-foot gutters along the majority of internal streets. Six-foot margins along the sides of each street would allow for street parking.

Parks, Open Space, and Landscaping

A total of 8.65 acres are planned for two park areas located at the northern end of the development area (see Figure 3-10). The parks would be managed by the Cordova Recreation and Park District. An additional 9.77 acres of land would be designated Community Space. The Community Space area would include bioretention and hydromodification areas. Finally, 0.45-acre of the project site would be designated green infrastructure which would include enhanced landscaped areas and trails with connection to the surrounding parks.

Figure 3-3
Existing and Proposed Zoning

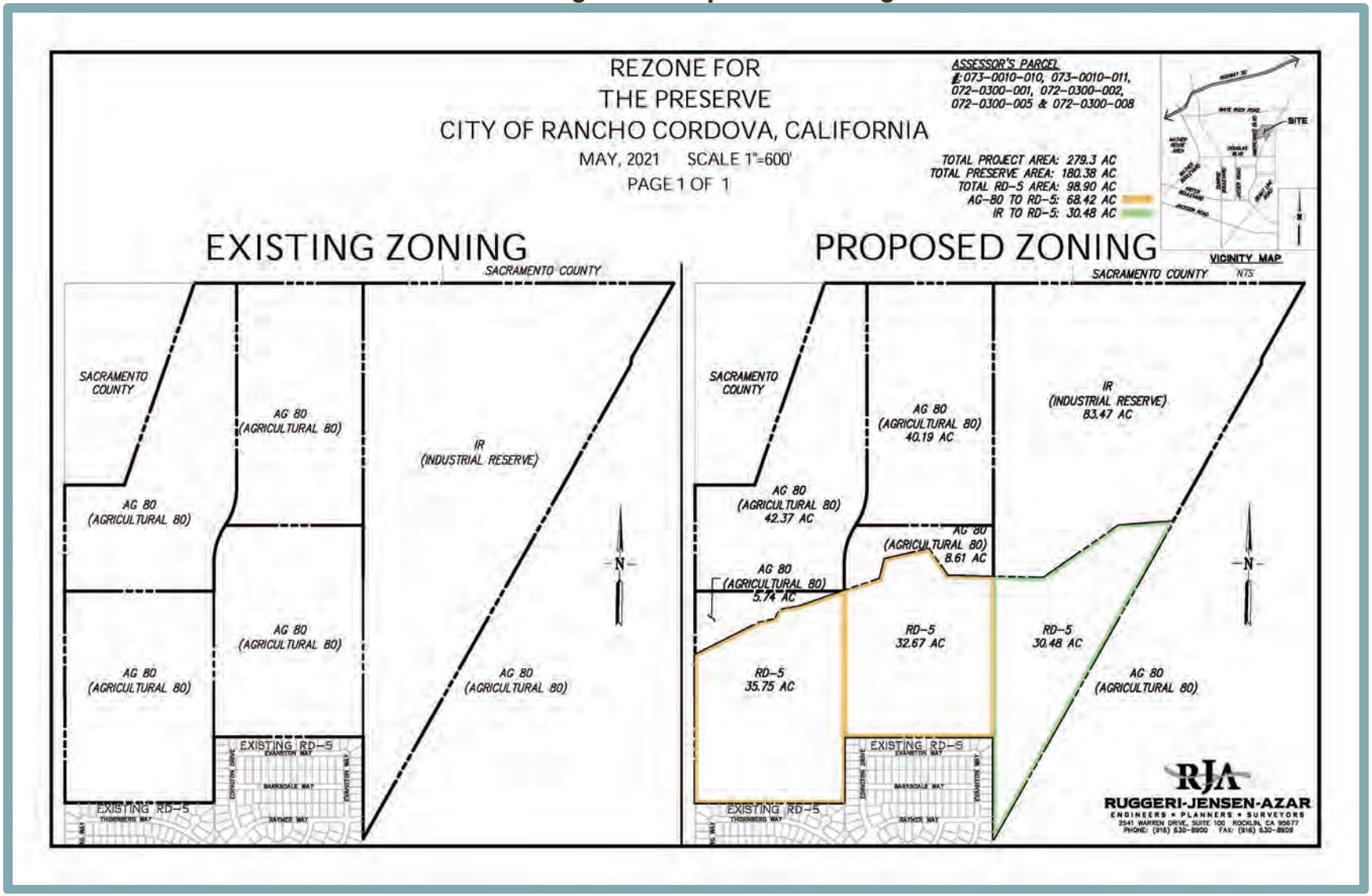


Figure 3-4
Tentative Subdivision Map Overview

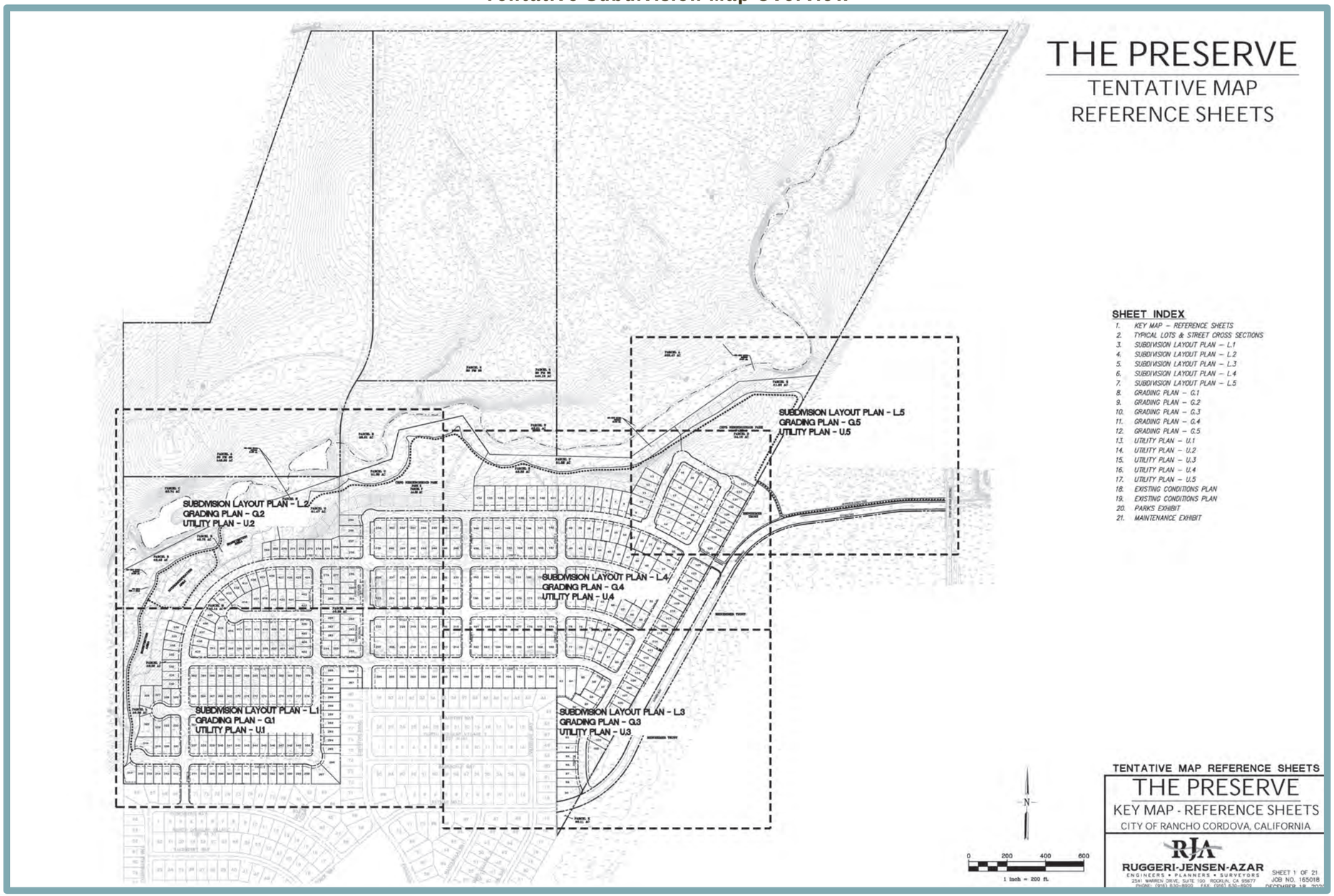


Figure 3-5
Tentative Subdivision Map – Section 1

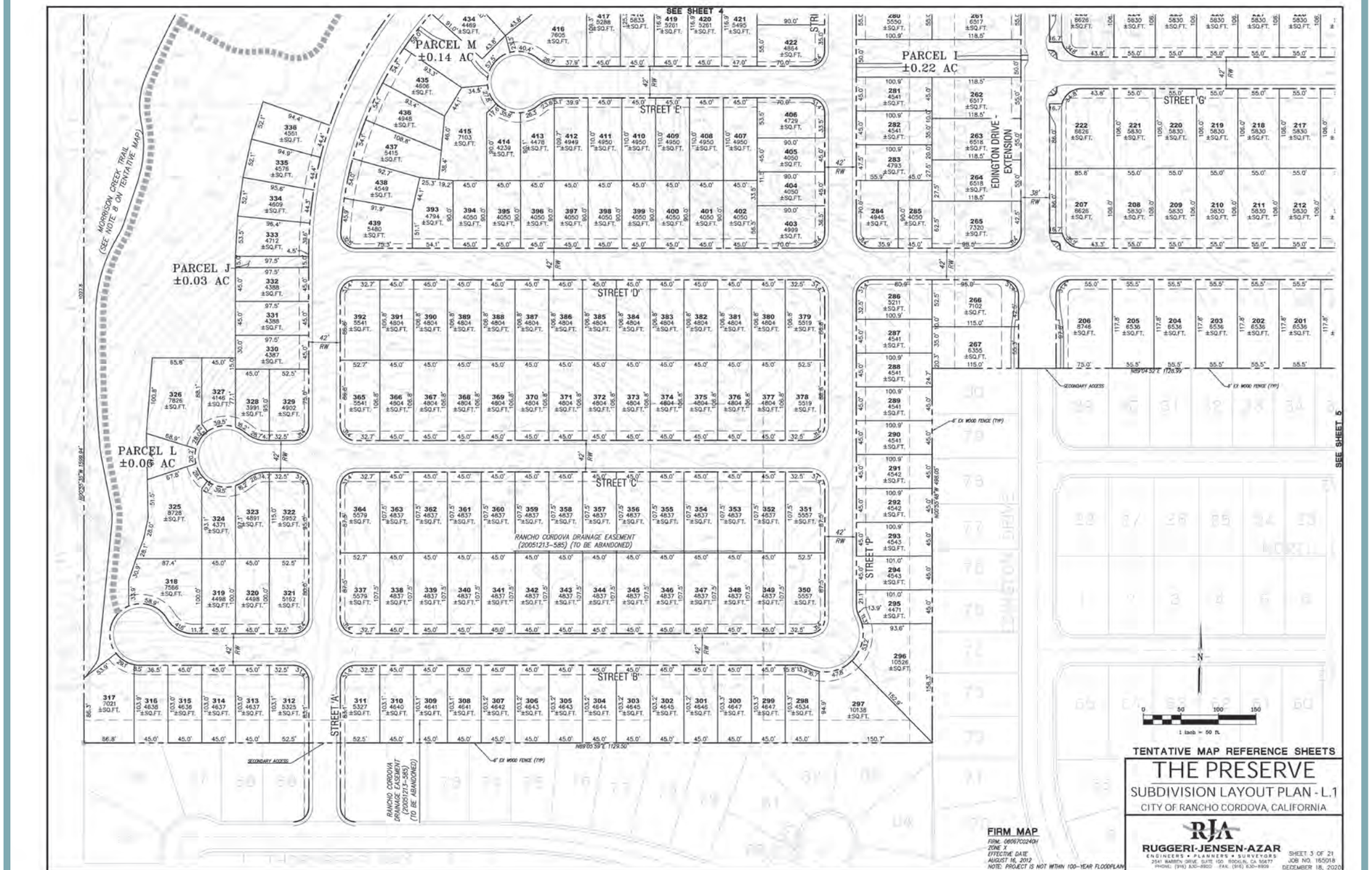


Figure 3-6
Tentative Subdivision Map – Section 2

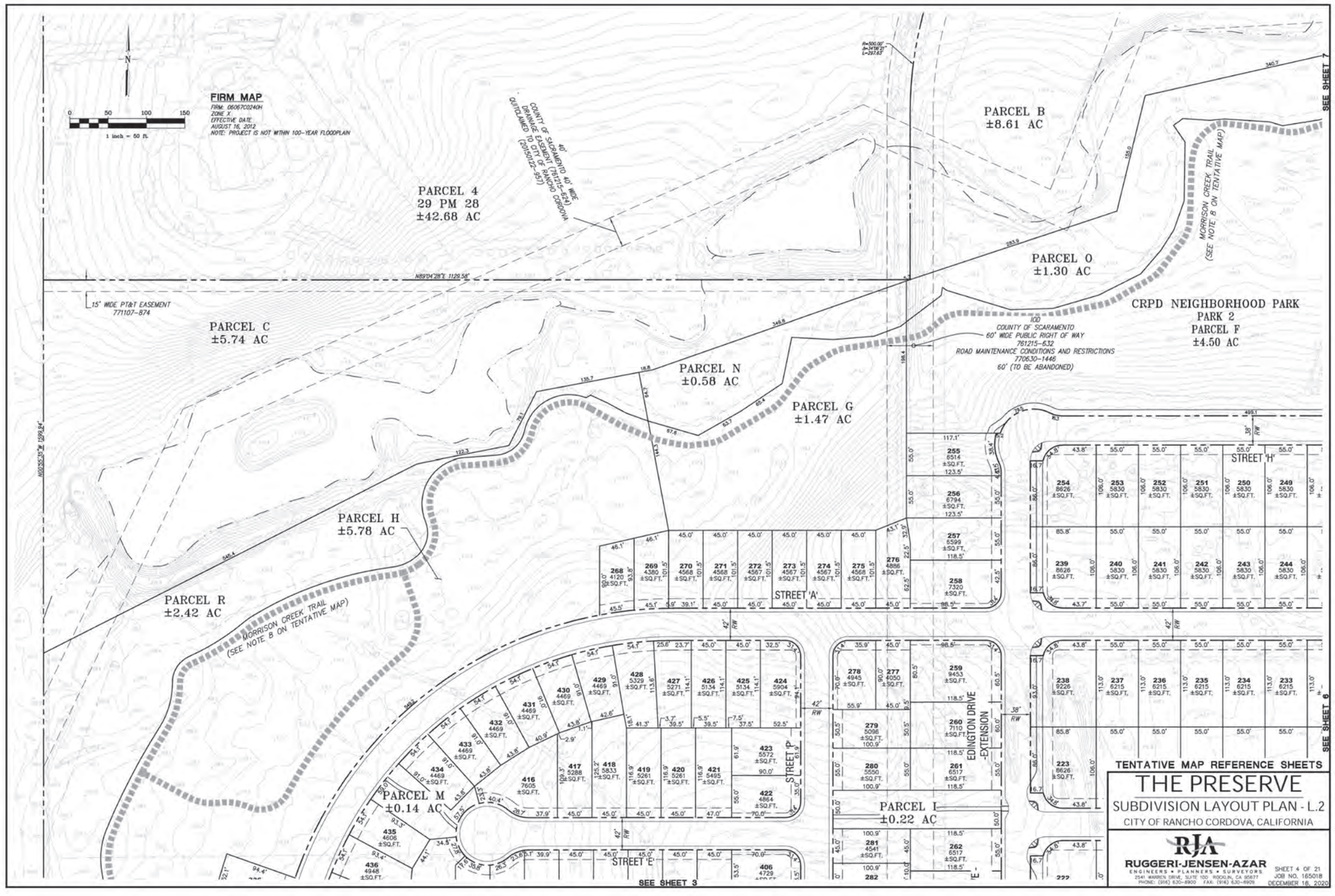


Figure 3-7
Tentative Subdivision Map – Section 3

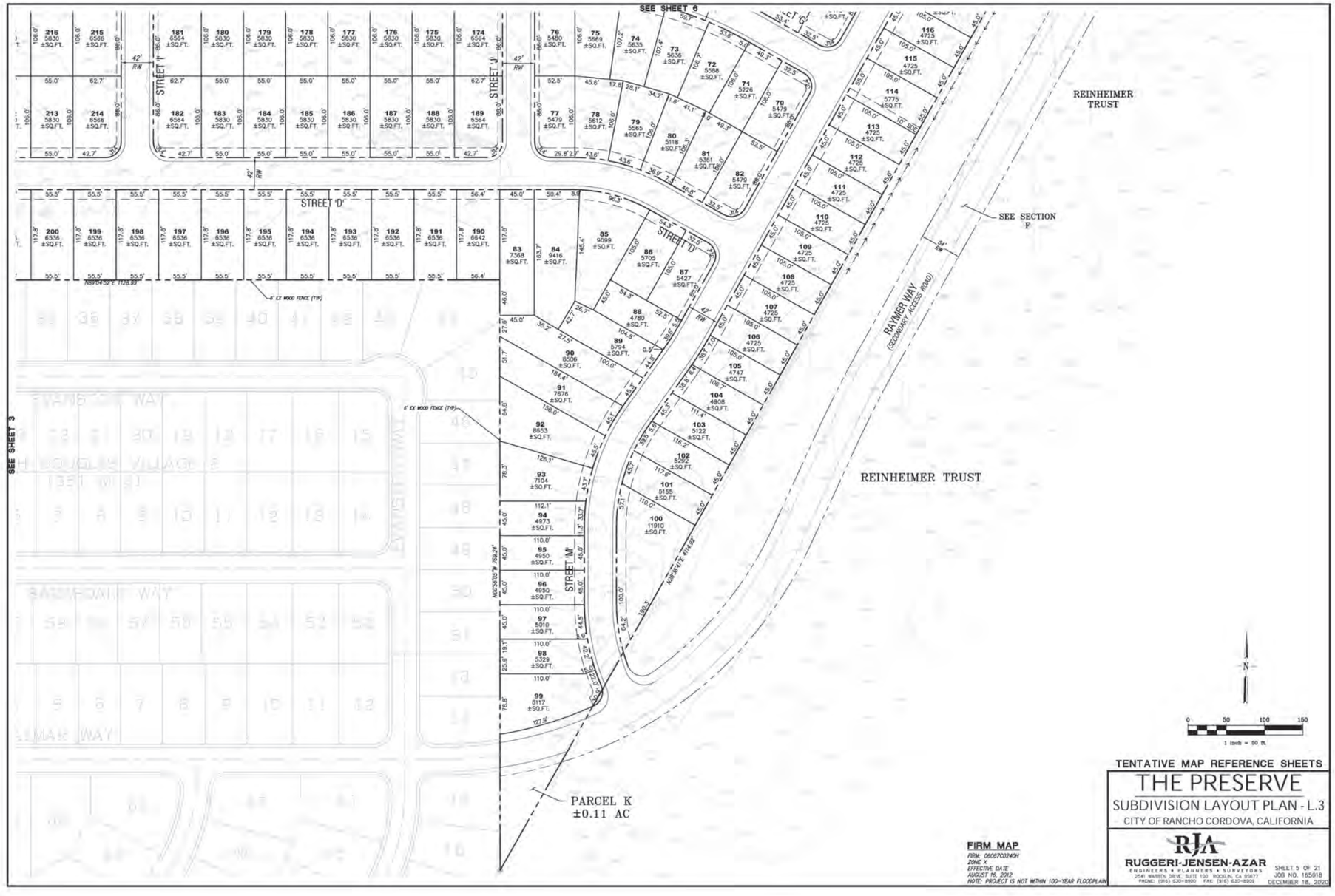


Figure 3-8
Tentative Subdivision Map – Section 4

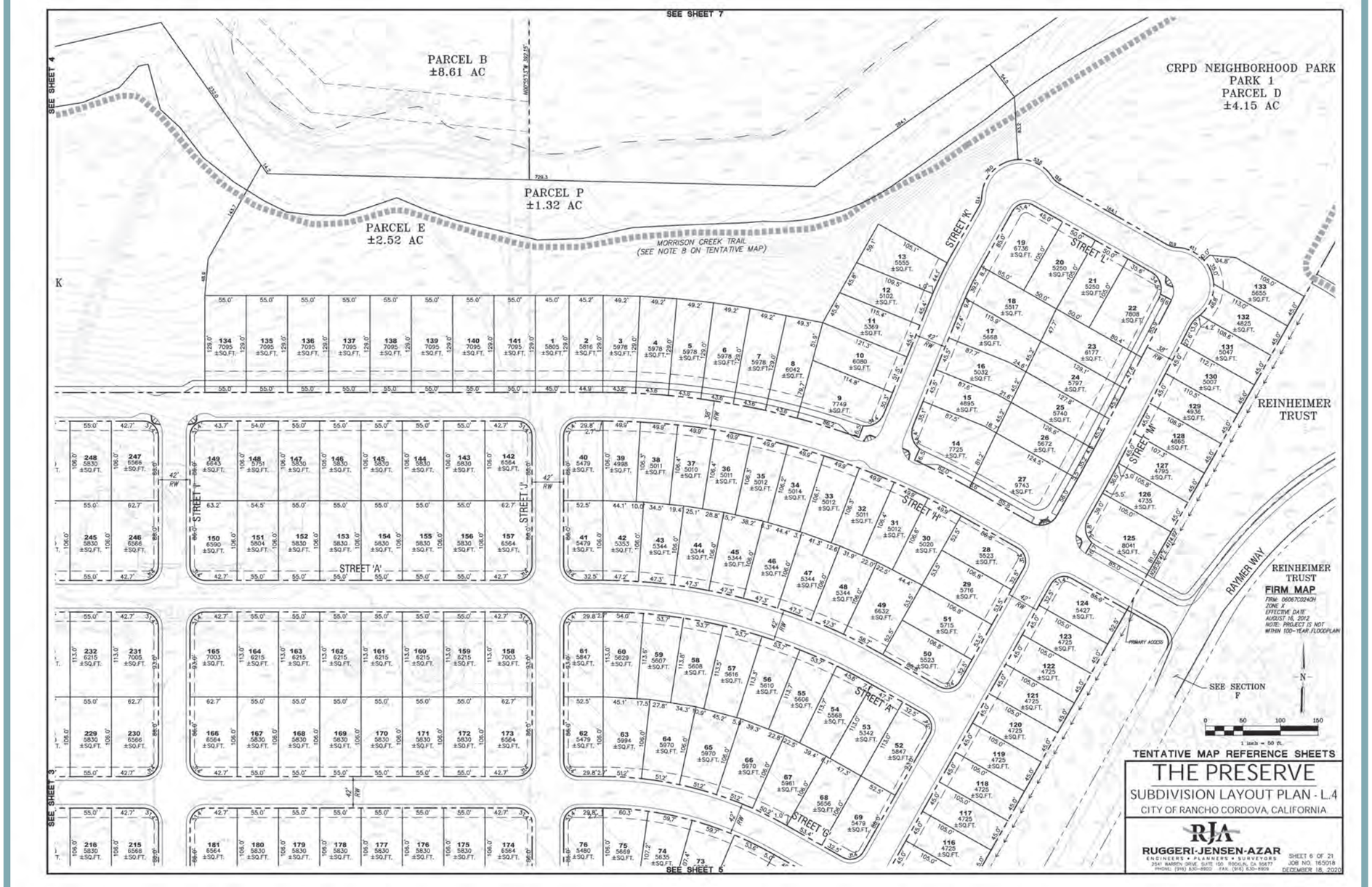


Figure 3-9
Tentative Subdivision Map – Section 5

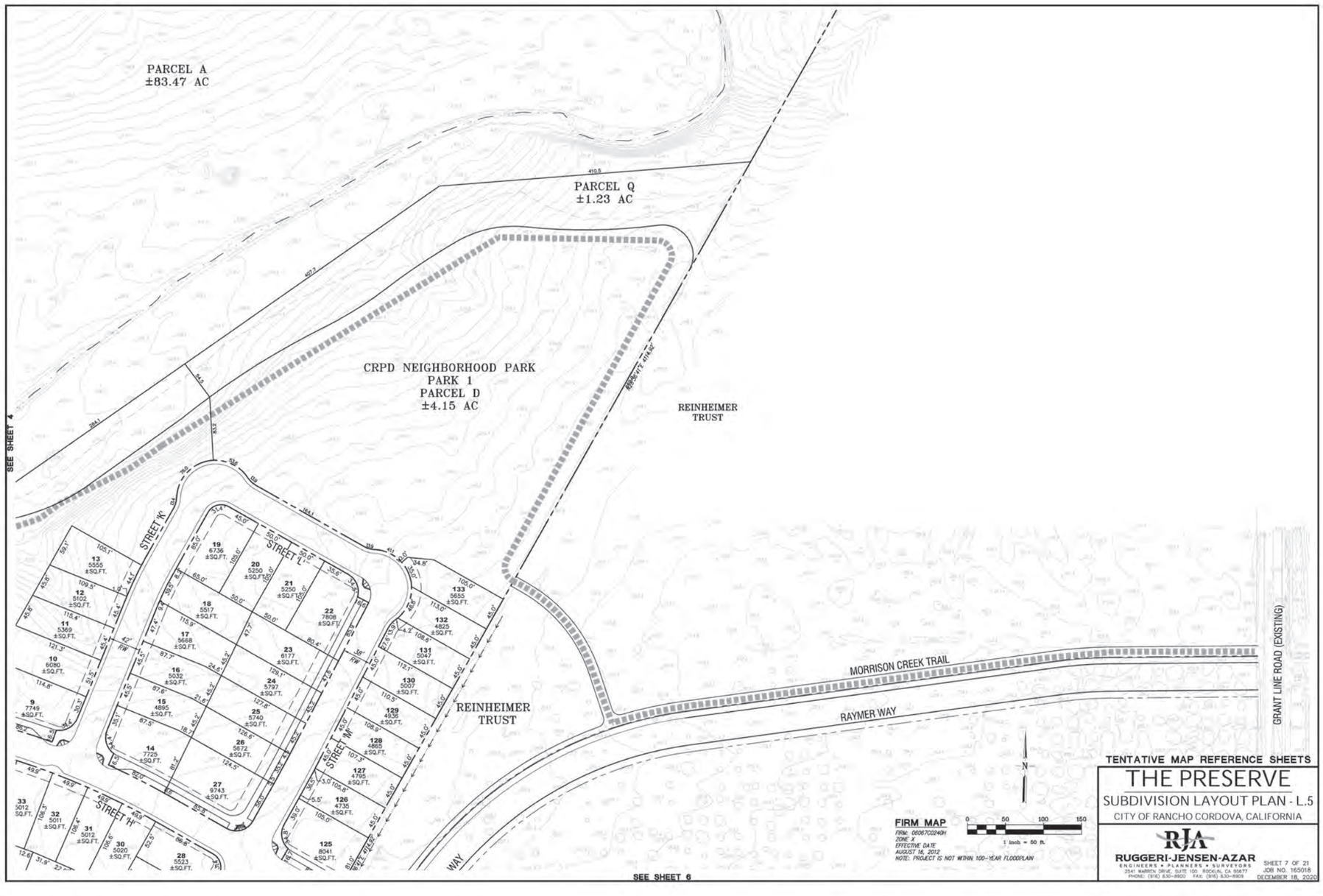
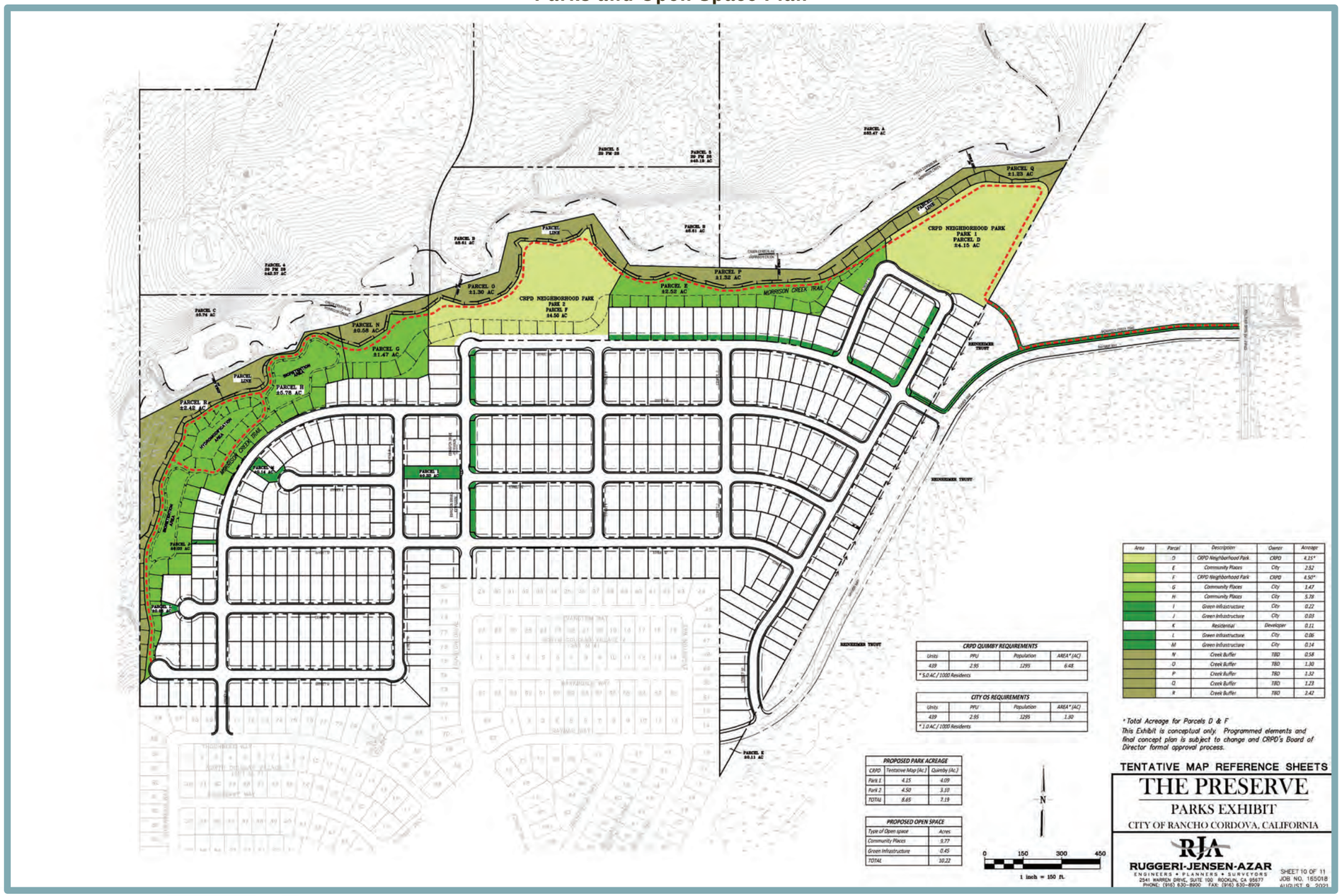


Figure 3-10
Parks and Open Space Plan



It should be noted that through current project entitlements, the 185.3 acres of undeveloped land on the northern parcels of the project site would remain as open space following development of the proposed project. Morrison Creek would be undisturbed within the open space area.

The proposed project would include measures to protect the vegetation and habitats within the 185.3 acres of open space area, including but not limited to, fencing and long-term funding for management of the area. The area would also include an easement for the future extension of Centennial Drive. The areas designated for open space would maintain the IR or AG-80 zoning designation and would not require an amendment.

Utilities

Figure 3-11 through Figure 3-15 provide an overview of the proposed water, sewer, and stormwater utility improvements.

Treated water service for the project would be provided by the Sacramento County Water Agency. The proposed project would include connection of new eight-inch water mains to an existing 10-inch water main located within Edington Drive. The new water lines would run throughout the drive aisles of the project site and would service all units.

Sanitary sewer service is provided to the City by the County Sanitation District 1. The County Sanitation District 1 operates and maintains the sewer system, which collects wastewater flows from individual developments within the City and conveys them to the Sacramento Regional County Sanitation District Inceptor system. Wastewater is ultimately delivered to the Sacramento Regional Wastewater Treatment Plant north of Elk Grove. The proposed project would include installation of eight-inch sanitary sewer pipelines throughout the project site which would divert wastewater to the County Sanitation District. The project would include connection of the eight-inch sanitary sewer lines to existing eight-inch sewer lines within Edington Drive and Thornberg Way.

Stormwater generated by impervious areas within the project site would be captured by a series of drain inlets located within the internal roadways and routed, through new underground 12- to 24-inch storm drains, to two bio-retention basins located within the northwest portion of the development area. The bio-retention basins would provide for treatment runoff by allowing stormwater to infiltrate through underlying soils, prior to capture with a perforated underdrain located underneath the bio-retention soil media. In addition, each basin would include an overflow structure connected to the underdrain. Treated stormwater captured by the perforated underdrain would flow, through new 15-inch storm drains, to a hydromodification basin located in between the two bio-retention basins. During large storm events, excess stormwater in the bio-retention basins would flow directly through the overflow structures. The hydromodification basin would allow for detention of captured runoff prior to discharging, through a new 36-inch storm drain and outlet structure, to Morrison Creek.

Off-Site Improvements

As shown in Figure 3-2, the project could include off-site improvements to the east of the site boundary. The improvements could occur adjacent to the proposed structures along the easternmost border. Improvements could include utility connection or road development. Additionally, off-site improvements could be required along the existing Raymer Way to the intersection with Grant Line Road. Improvements within the area would include expansion of the roadway or modifications to Morrison Creek.

Figure 3-11
Preliminary Utilities Plan – Section 1

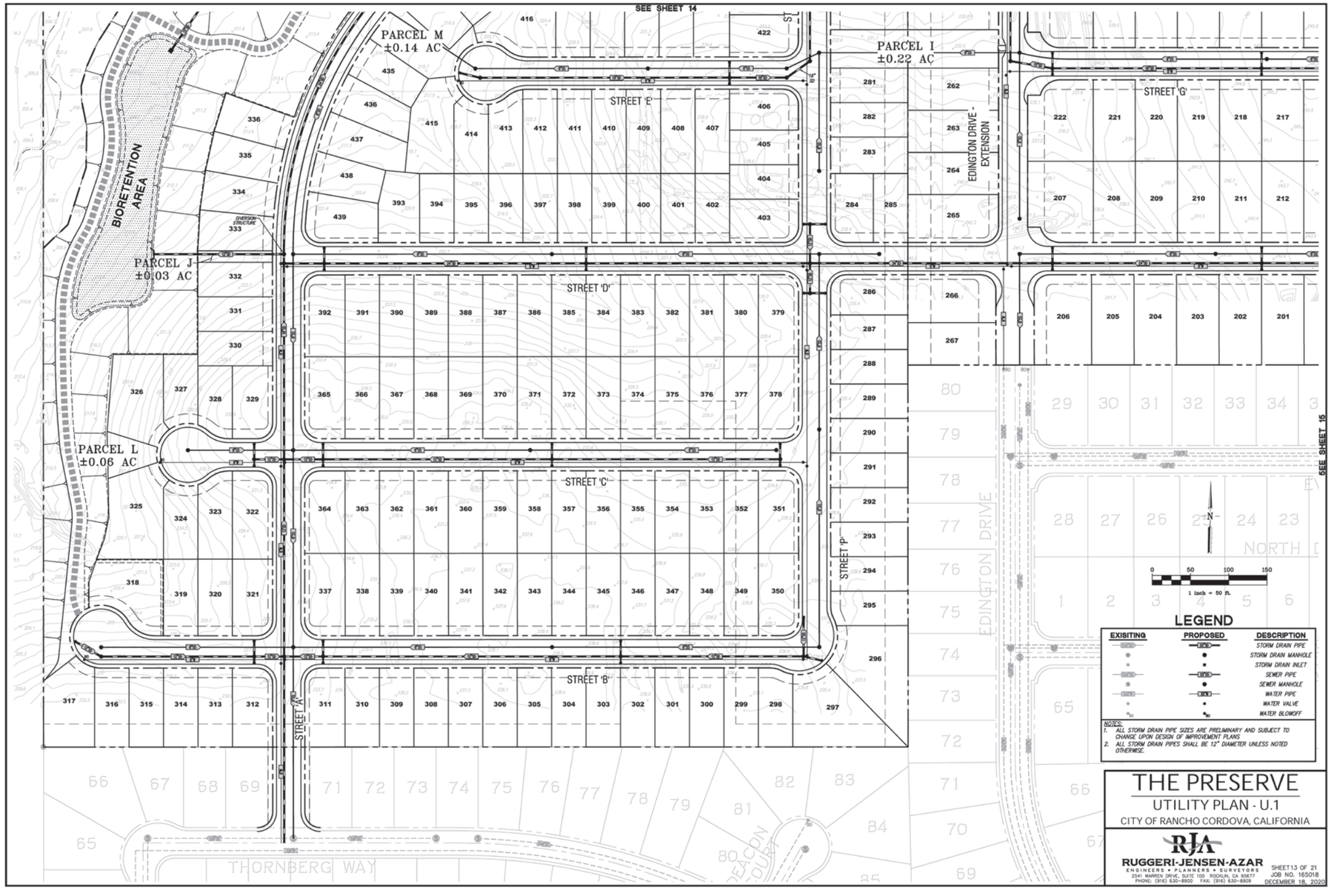


Figure 3-12
Preliminary Utilities Plan – Section 2

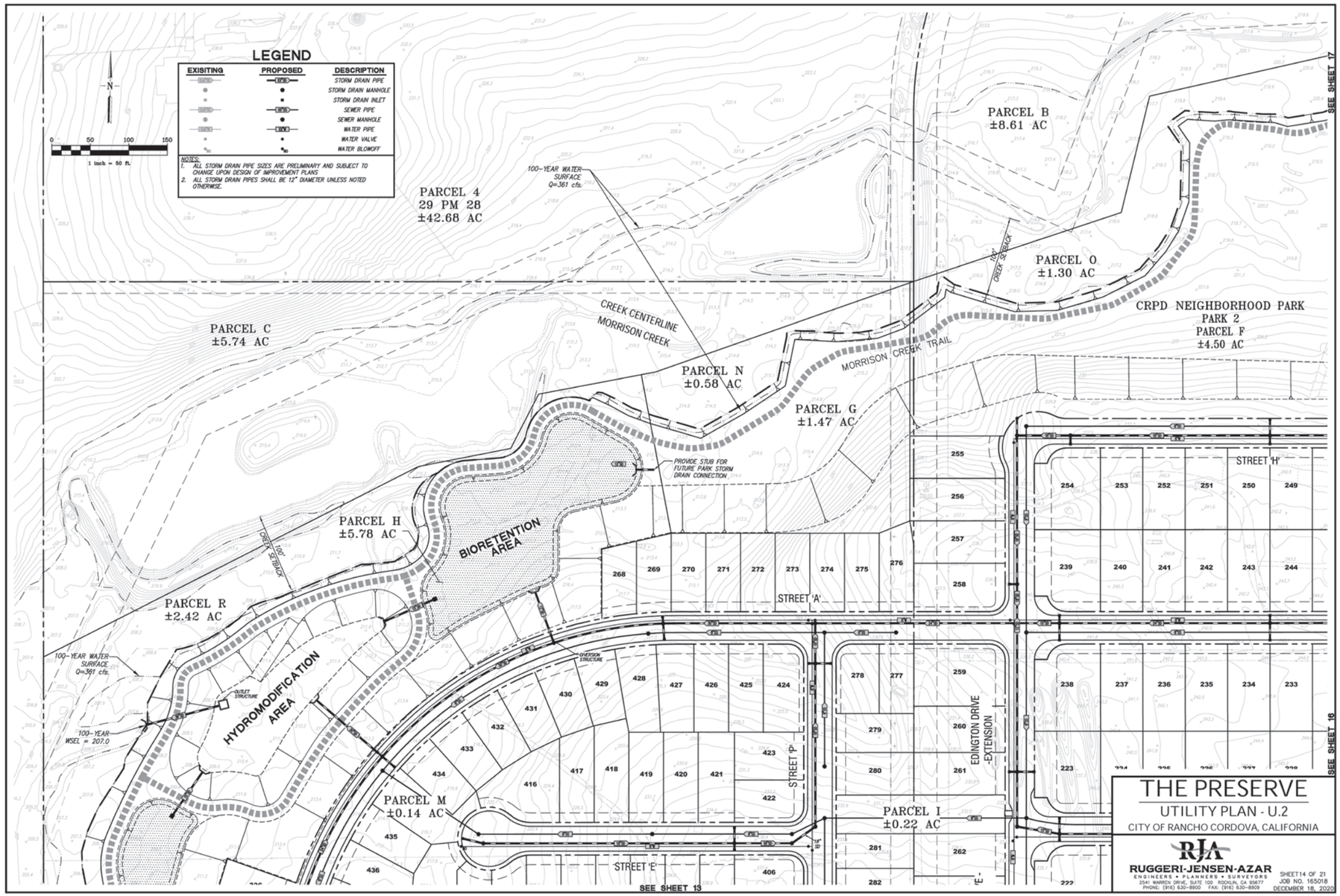


Figure 3-13
Preliminary Utilities Plan – Section 3

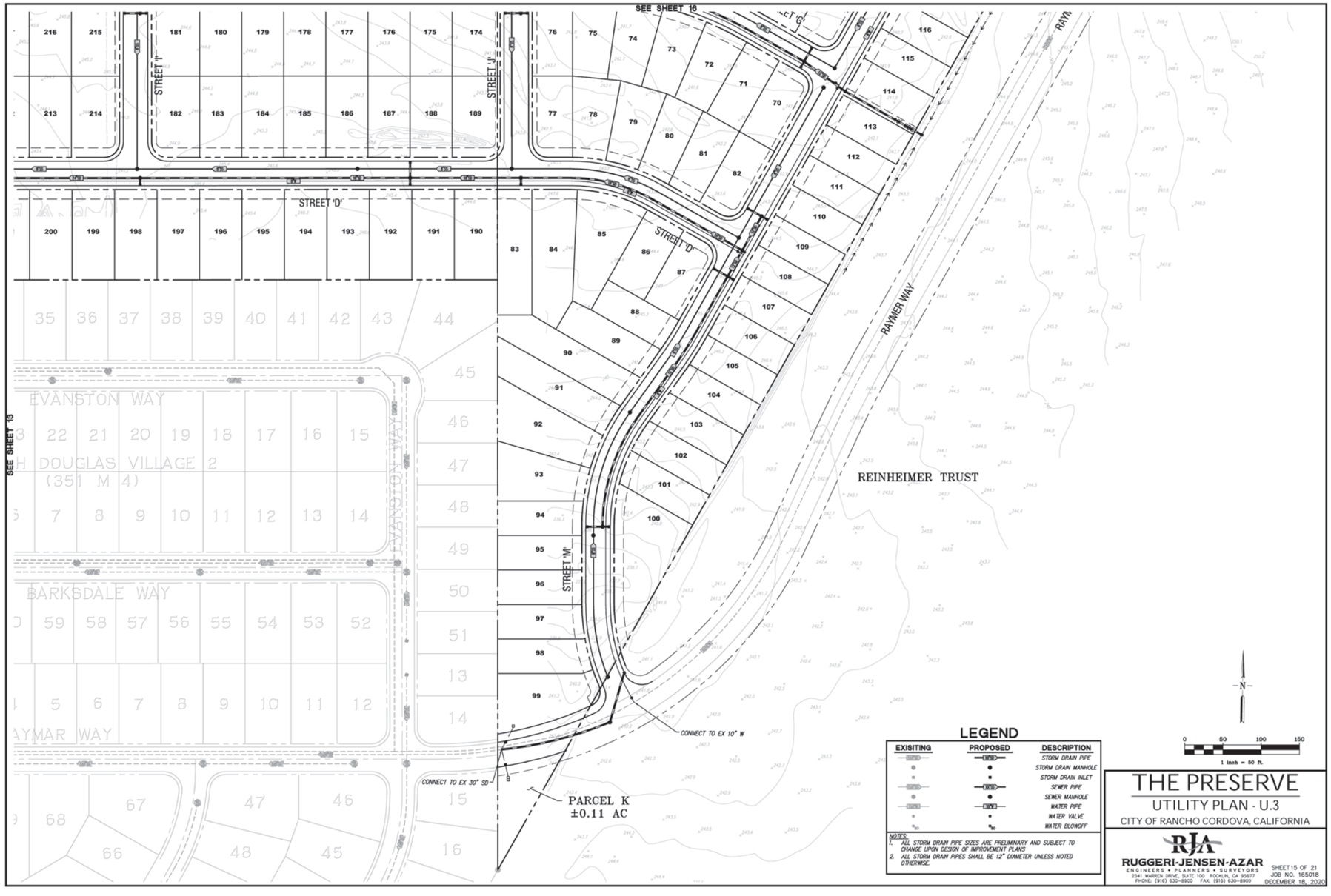


Figure 3-14
Preliminary Utilities Plan – Section 4

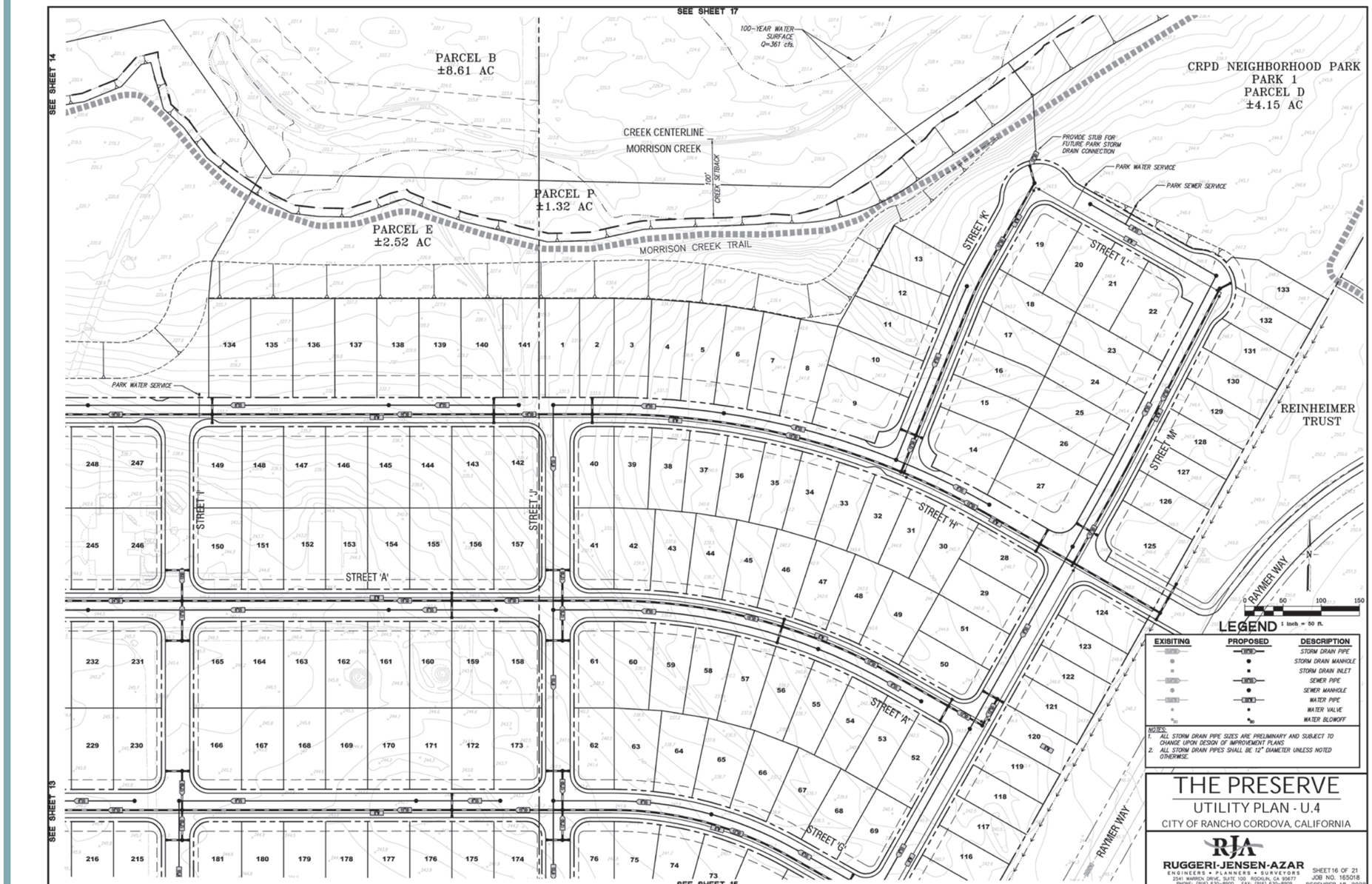
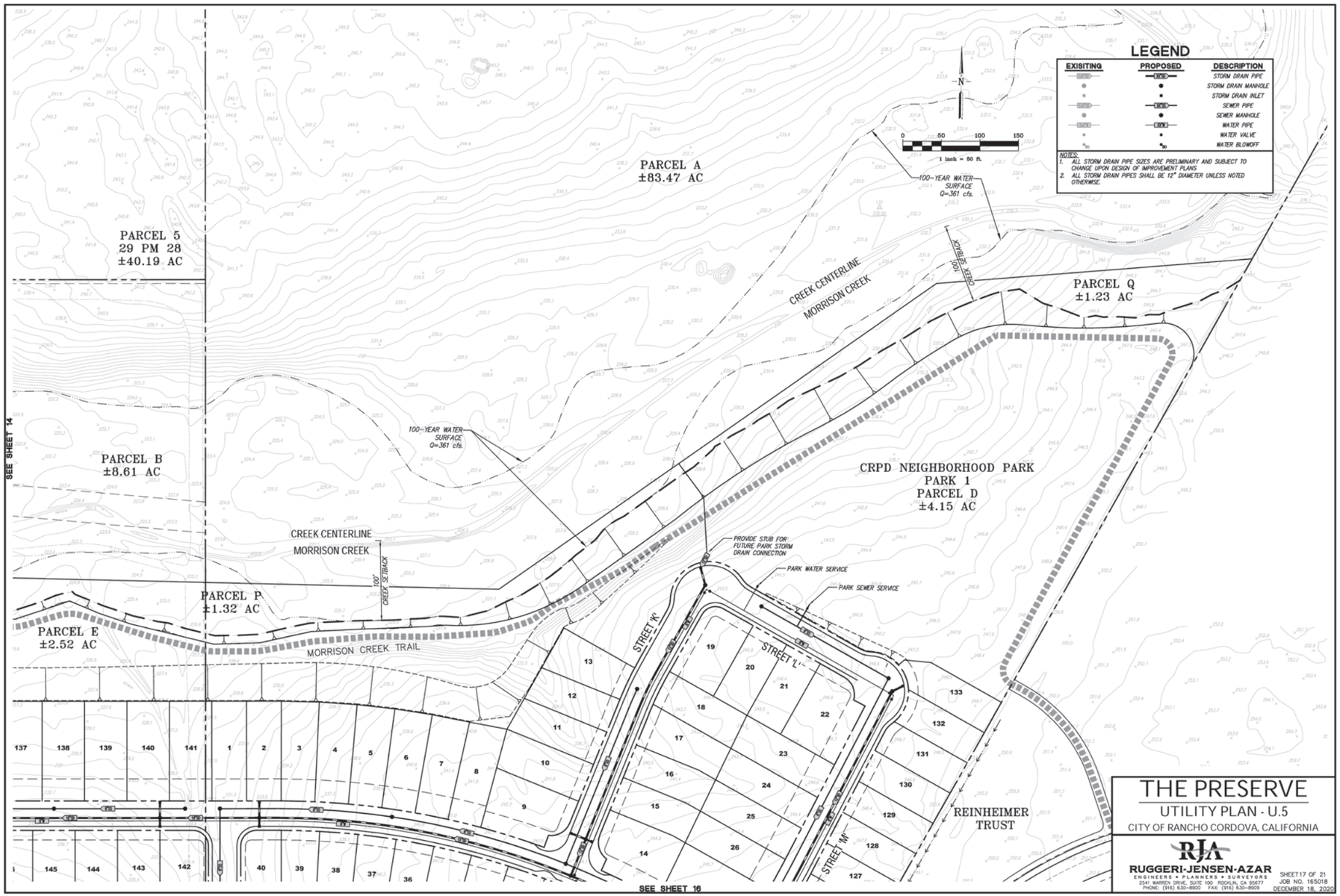


Figure 3-15
Preliminary Utilities Plan – Section 5



3.6 REQUIRED DISCRETIONARY APPROVALS

The proposed project would require City approval of the following:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- General Plan Amendment from Grant Line West Planning Area to Low-Density Residential;
- General Plan Amendment to remove the portion of Centennial Drive through the project site, as depicted in the Circulation Element;
- Rezone from AG-80 (approximately 68.42 acres) and IR (approximately 30.48 acres) to Residential District (RD-5);
- Tentative Subdivision Map; and
- Development Agreement.

3.7 OTHER AGENCY AND PERMIT APPROVALS

In addition to the aforementioned entitlements from the City of Rancho Cordova, the proposed project would require approvals/permits from the following State, federal, or local agencies:

- California Department of Fish and Wildlife (CDFW);
- Central Valley Regional Water Quality Control Board (CVRWQCB);
- Sacramento Metropolitan Air Quality Management District (SMAQMD);
- U.S. Army Corps of Engineers (USACE) – Nationwide Permit (404); and, possibly,
- U.S. Fish and Wildlife Service (USFWS).

4.0 Introduction to the Analysis

4.0 INTRODUCTION TO THE ANALYSIS

4.0.1 INTRODUCTION

The technical chapters of the EIR analyze the potential impacts of buildout of the proposed project on a range of environmental issue areas. Chapters 4.1 through 4.10 of the EIR include the following: the environmental setting as the setting relates to the specific issue; standards of significance; method of analysis; and project-specific impacts and mitigation measures. Additionally, Chapters 4.1 through 4.10 describe the cumulative impacts of the project combined with past, present and reasonably probable future projects for each issue area. The format of each of the technical chapters is described at the end of this chapter. It should be noted that all technical reports are either attached to this EIR, available by request from the City, or available on the City's website at:

www.cityofranchocordova.org/government/planning/environmental-review/environmental-documents.

4.0.2 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment (Public Resources Code Section 21068). The CEQA Guidelines require that the determination of significance be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified within in each technical chapter, and are consistent with significance criteria set forth in the CEQA Guidelines or as based on the professional judgment of the EIR preparers.

4.0.3 ENVIRONMENTAL ISSUES DISMISSED IN THE INITIAL STUDY

The Initial Study prepared for the proposed project (see Appendix A to this EIR) includes a detailed environmental checklist addressing a range of technical environmental issues. For each technical environmental issue, the Initial Study identifies the level of impact for the proposed project. The Initial Study identifies the environmental effects as "no impact," "less than significant," "less than significant with mitigation incorporated," and "potentially significant."

Impacts identified in the Initial Study as no impact, less than significant, or less than significant with the implementation of mitigation are presented below. All remaining issues identified in the Initial Study as potentially significant are discussed in the subsequent technical chapters of this EIR.

Aesthetics (All Sections): The City of Rancho Cordova General Plan EIR designates the American River and the Sierra Nevada Mountain range as scenic resources and notes that scenic views of Mount Diablo are available from Grant Line Road. However, considering the lack of designated public views of the American River or the Sierra Nevada foothills across the project site, the setback of proposed structures from Grant Line Road, and the existing maximum height requirements, the proposed project would not result in a substantial adverse effect on a scenic vista. The project site is not visible from the nearest designated State scenic highway to the project site, State Route (SR) 50. As a result, the project would not substantially damage scenic resources, including, but not

limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. In addition, the Initial Study determined that compliance with the City's Municipal Code and *Design Guidelines* would ensure that the proposed project would not result in a degradation of the existing visual character of the site or quality of the public views of the site and its surroundings. The proposed project could introduce new sources of substantial light and glare to the site in the form of street lights, homes, windows, and increased vehicle traffic. The proposed project would comply with Section 23.725.060 of the Rancho Cordova Municipal Code which requires shielding of fixtures to limit light pollution and the restriction of direct lighting from crossing property lines. In addition, Mitigation Measure I-1 set forth in the Initial Study (see Appendix A to this EIR) requires the City's approval of a lighting plan for the proposed project, which would ensure the impact on the surrounding area due to lighting on the project site would be reduced to a less-than-significant level. Based on the above, impacts related to Aesthetics from the proposed project would be *less than significant* and *less than significant with mitigation incorporated*.

- *Agriculture and Forest Resources (All Sections):* Per the Department of Conservation Farmland Mapping and Monitoring Program (FMMP), the project site is currently classified as Grazing Land, Farmland of Local Importance, and Unique Farmland. However, the portion of the site designated Unique Farmland is located within the 185.3-acre open space area, which would not be developed as part of the proposed project. The project site is currently zoned Agricultural (AG-80) and Industrial Reserve (IR), and the proposed project includes a request for a rezone of a portion of the site to RD-5. However, the project site is not currently being used for agricultural purposes, and, thus, the project would not result in development of land being used for agriculture. The project site is not under a Williamson Act Contract, is not considered forest land or timberland, and is not zoned for Timberland Production. Therefore, the proposed project would result in *no impacts* and *less-than-significant* impacts related to Agriculture and Forest Resources.

- *Air Quality (d):* Typical sources of objectionable odor include wastewater treatment plants, landfills, and composting facilities, which are not proposed as part of the project. Diesel fumes from construction equipment can be considered objectionable; however, construction activities would be temporary in nature. During operations, residential land uses, such as the proposed project, are not typically associated with creation of substantial objectionable odors. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people, and a *less-than-significant* impact would occur.

- *Geology and Soils (ai and e):* According to the City's General Plan EIR, the closest fault zone to the project site is the Bear Mountain fault zone, located approximately 24 miles northeast of Rancho Cordova's Planning Area. In addition, the proposed residences would connect to the County Sanitation District 1 system. Therefore, the project would not result in substantial adverse effects, including risk, injury, or death, associated with the rupture of a known fault zone and would not include the use of septic tanks or alternative wastewater disposal systems, and *no impact* would occur related to such.

- *Hazards and Hazardous Materials (c-g):* The project site is not located within one-quarter mile of an existing or proposed school nor is it located within an airport land use plan and/or within two miles of a public airport. Thus, *no impact* would occur related to emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school or result in a safety

hazard or excessive noise for a project located within an airport land use plan or within two miles of a public airport.

The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and the project site is not located within a High or Very High Fire Hazard Severity Zone. Furthermore, the proposed would not impair or physically interfere with an adopted emergency response plan due to substantial street width and number of access points. Therefore, the proposed project would result in *less-than-significant* impacts related to being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, exposing people or structures to the risk of loss, injury or death involving wildland fires, or impairing implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- *Hydrology and Water Quality (d):* Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project site is not located within a Special Flood Hazard Area. In addition, the project site is not located near the ocean or a large closed body of water which would be subject to tsunamis or seiches. Therefore, the proposed project would result in *no impact* related to the risk release of pollutants due to project inundation.

- *Land Use and Planning (a):* The two on-site residences would be demolished as part of the proposed project, but do not belong to an established community. Therefore, the project would not have the potential to physically divide an established community, and a *less-than-significant* impact would occur.

- *Noise (c):* The nearest airport to the project site, Mather Airport, is located approximately five miles away. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels related to air traffic, and *no impact* would occur.

- *Population and Housing (b):* The proposed project would require demolition of the two existing single-family residences. While the project would displace inhabitants of the two residences, replacement housing would be available from the existing housing stock in Rancho Cordova. Furthermore, the project would add 440 residential units to the site, resulting in a net increase of 437 units to the City's housing stock. Therefore, *a less-than-significant* impact would occur related to the displacement of existing people or housing.

- *Public Services (d and e):* The proposed project would introduce new residents to the project area and thereby increase the demand for parks and other public facilities. However, the proposed project would include dedication of parkland, satisfying the City's Municipal Code requirements. In addition, the future residents of the proposed project would have access to the City's existing public facilities. Thus, implementation of the project would not result in substantial adverse physical impacts associated with the provision of new or altered parks or other public facilities, and a *less-than-significant* impact would occur.

- *Recreation (All Sections):* Given that the proposed project would induce population growth through the development of new residences, the project would result in increased demand

for recreational facilities. As mentioned above, the project would include the dedication of land for parks, Community Space, and green infrastructure. Furthermore, the project applicant would be required to pay development impact fees. Therefore, a *less-than-significant* impact would occur related to recreation.

- *Wildfire (All Sections):* According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program the project site is not located within or adjacent to a High or Very High Fire Hazard Severity Zone. Furthermore, the project is not located on a slope or near a downstream flooding area that would increase hazards related to wildfire. Therefore, a *less-than-significant* impact would occur related to wildfire.

4.0.4 ENVIRONMENTAL ISSUES ADDRESSED IN THIS EIR

The EIR provides the analysis necessary to address the technical environmental impacts of the proposed project. The following environmental issues are addressed in this EIR:

- Air Quality, Greenhouse Gas Emissions, and Energy;
- Biological Resources;
- Cultural and Tribal Resources;
- Geology and Soils/Mineral Resources;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning/Population and Housing;
- Noise;
- Public Services and Utilities; and
- Transportation.

See Section 5.3, Cumulative Impacts, of Chapter 5, Statutorily Required Sections, for additional information on the scope of the cumulative impact analysis for each environmental issue addressed in the EIR.

4.0.5 CHAPTER FORMAT

Each technical chapter addressing a specific environmental issue begins with an **introduction** describing the purpose of the section. The introduction is followed by a description of the project's **existing environmental setting** as the setting pertains to that particular issue. The setting description is followed by the **regulatory context** and the **impacts and mitigation measures** discussion, which contains the **standards of significance**, followed by the **method of analysis**. The **impact and mitigation measures** discussion includes impact statements prefaced by a number in bold-faced type (for both project-specific and cumulative analyses). An explanation of each impact and an analysis of the impact's significance follow each impact statement. All mitigation measures pertinent to each individual impact follow directly after the impact statement (see below). The degree of relief provided by identified mitigation measures is also evaluated. An example of the format is shown below.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance.

4.x-1 Statement of Project-Specific Impact

Discussion of impact for the proposed project in paragraph format.

Statement of ***level of significance*** of impact prior to mitigation is included at the end of each impact discussion. The following levels of significance are used in the EIR: less than significant, significant, or significant and unavoidable. If an impact is determined to be significant, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less-than-significant level with implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures.

4.x-1(a) *Required mitigation measure(s) presented in italics and listed in consecutive order.*

4.x-1(b) *Required additional mitigation measure, if necessary.*

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on implementation of the proposed project in combination with cumulative development within the applicable area or region.

4.x-2 Statement of Cumulative Impact

Discussion of cumulative impacts for the proposed project in paragraph format.

As discussed in detail in Chapter 5, Statutorily Required Sections, of the EIR, the cumulative setting for the proposed project is generally considered to be development anticipated to occur upon buildout of the Rancho Cordova General Plan (i.e., Rancho Cordova city limits), as well as buildout of a number of approved or reasonably foreseeable projects within the project region.

Statement of ***level of significance*** of cumulative impact prior to mitigation is included at the end of each impact discussion. The following levels of significance are used in the EIR for cumulative impacts: less than significant, less than cumulatively considerable, cumulatively considerable, or significant and unavoidable. If an impact is determined to be cumulatively considerable, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less-than-significant or less than cumulatively considerable levels with the implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures.

4.x-2(a) *Required mitigation measure(s) presented in italics and listed in consecutive order.*

4.x-2(b) *Required additional mitigation measure, if necessary.*

4.1 Air Quality, Greenhouse Gas Emissions, and Energy

4.1 AIR QUALITY, GREENHOUSE GAS EMISSIONS, AND ENERGY

4.1.1 INTRODUCTION

The Air Quality, Greenhouse Gas Emissions, and Energy chapter of the EIR describes the potential impacts of the proposed project on local and regional air quality emissions, potential impacts related to greenhouse gas (GHG) emissions and climate change, and potential impacts related to energy. The chapter includes a discussion of the existing air quality, GHG, and energy setting, the existing regulatory setting, as well as potential air quality, GHG, and energy impacts resulting from implementation of the project. In addition, the chapter includes mitigation measures warranted to reduce or eliminate any identified significant impacts. This chapter is based on the Rancho Cordova General Plan[1] and associated EIR,[2] the Sacramento Metropolitan Air Quality Management District (SMAQMD) CEQA Guide,[3] and technical analysis performed by Raney Planning and Management, Inc.

4.1.2 EXISTING ENVIRONMENTAL SETTING

The following information provides an overview of the existing environmental setting in relation to air quality within the proposed project area. Air basin characteristics, ambient air quality standards (AAQS), attainment status and regional air quality plans, local air quality monitoring, odors, sensitive receptors, greenhouse gases, and energy are discussed.

Air Basin Characteristics

The proposed project site is located in the City of Rancho Cordova, which falls within the Sacramento Valley Air Basin (SVAB) and is within the jurisdictional boundaries of the SMAQMD. The SVAB is in the northern half of California's Great Valley and is bordered on three sides by mountain ranges. Air flows into the SVAB through the Carquinez Strait, moves across the Delta and carries pollutants from the heavily populated San Francisco Bay Area into the SVAB. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north.

Most precipitation in the SVAB results from air masses moving in from the Pacific Ocean during the winter months. Storms usually move through the area from the west or northwest. During the winter rainy season (November through February) over half the total annual precipitation falls while the average winter temperature is a moderate 49 degrees Fahrenheit. During the summer, daytime temperatures can exceed 100 degrees Fahrenheit. Dense fog occurs mostly in mid-winter and rarely in the summer. Daytime temperatures from April through October average between 60 and 80 degrees Fahrenheit with low humidity. The inland location and surrounding mountains shelter the valley from much of the ocean breeze that keeps the coastal regions moderate in temperature. The only breech in the mountain barrier is the Carquinez Strait, which exposes the midsection of the valley to the coastal air mass.

1 City of Rancho Cordova. *Rancho Cordova General Plan*. June 26, 2006.
2 City of Rancho Cordova. *Rancho Cordova General Plan Draft Environmental Impact Report.* March 2006.
3 Sacramento Metropolitan Air Quality Management District. *CEQA Guide*. April 2020.

Air quality in the City of Rancho Cordova is also affected by inversion layers, which occur when a layer of warm air traps a layer of cold air, preventing vertical dispersion of air contaminants. The presence of an inversion layer results in higher concentrations of pollutants near ground level. 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.

Air quality in the project vicinity is influenced by both local and distant emission sources. Air pollutant sources in the immediate project vicinity include emissions from vehicle traffic on United States Route 50 (US 50) and other nearby roadways. Other sources of air pollutants in the area include activities associated with commercial, residential, and industrial land uses.

Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established AAQS for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The AAQS for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which AAQS have been established are called “criteria” pollutants. Table 4.1-1 identifies the major pollutants, characteristics, health effects and typical sources. The national and California AAQS (NAAQS and CAAQS, respectively) are summarized in Table 4.1-2. The NAAQS and CAAQS were developed independently with differing purposes and methods. As a result, the federal and State standards differ in some cases. In general, the State of California standards are more stringent than the federal standards, particularly for ozone and particulate matter (PM).

A description of each criteria pollutant and its potential health effects is provided below.

Ozone

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere, ozone is a product of the photochemical process involving the sun's energy, and is a secondary pollutant formed as a result of a complex chemical reaction between reactive organic gases (ROG) and oxides of nitrogen (NO_X) emissions in the presence of sunlight. As such, unlike other pollutants, ozone is not released directly into the atmosphere from any sources. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation. The primary source of ozone precursors is mobile sources, including cars, trucks, buses, construction equipment, and agricultural equipment. Ground-level ozone reaches the highest level during the afternoon and early evening hours. High levels occur most often during the summer months. Ground-level ozone is a strong irritant that could cause constriction of the airways, forcing the respiratory system to work harder in order to provide oxygen. Ozone at the Earth's surface causes numerous adverse health effects and is a major component of smog. High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments.

Reactive Organic Gas

ROG is a reactive chemical gas composed of hydrocarbon compounds typically found in paints and solvents that contributes to the formation of smog and ozone by involvement in atmospheric chemical reactions. A separate health standard does not exist for ROG. However, some compounds that make up ROG are toxic, such as the carcinogen benzene.

Table 4.1-1
Summary of Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive gas produced by the photochemical process involving a chemical reaction between the sun's energy and other pollutant emissions. Often called photochemical smog.	• Eye irritation • Wheezing, chest pain, dry throat, headache, or nausea • Aggravated respiratory disease such as emphysema, bronchitis, and asthma	Combustion sources such as factories, automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	An odorless, colorless, highly toxic gas that is formed by the incomplete combustion of fuels.	• Impairment of oxygen transport in the bloodstream • Impaired vision, reduced alertness, chest pain, and headaches • Can be fatal in the case of very high concentrations	Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	A reddish-brown gas that discolors the air and is formed during combustion of fossil fuels under high temperature and pressure.	• Lung irrigation and damage • Increased risk of acute and chronic respiratory disease	Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants.
Sulfur Dioxide	A colorless, irritating gas with a rotten egg odor formed by combustion of sulfur-containing fossil fuels.	• Aggravation of chronic obstruction lung disease • Increased risk of acute and chronic respiratory disease	Diesel vehicle exhaust, oil-powered power plants, and industrial processes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	A complex mixture of extremely small particles and liquid droplets that can easily pass through the throat and nose and enter the lungs.	• Aggravation of chronic respiratory disease • Heart and lung disease • Coughing • Bronchitis • Chronic respiratory disease in children • Irregular heartbeat • Nonfatal heart attacks	Combustion sources such as automobiles, power generation, industrial processes, and wood burning. Also from unpaved roads, farming activities, and fugitive windblown dust.
Lead	A metal found naturally in the environment as well as in manufactured products.	• Loss of appetite, weakness, apathy, and miscarriage • Lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract	Industrial sources and combustion of leaded aviation gasoline.

Sources:

- ***California Air Resources Board. California Ambient Air Quality Standards (CAAQS). Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Accessed May 2021.***
- ***Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts: Sacramento Region Spare the Air. Air Quality Information for the Sacramento Region. Available at: http://www.sparetheair.com/health.cfm?page=healthoverall. Accessed May 2021.***
- ***California Air Resources Board. Glossary of Air Pollution Terms. Available at: http://www.arb.ca.gov/html/gloss.htm. Accessed May 2021.***

Table 4.1-2
Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS	NAAQS	
			Primary	Secondary
Ozone	1 Hour	0.09 ppm	-	Same as primary
	8 Hour	0.070 ppm	0.070 ppm	
Carbon Monoxide	8 Hour	9 ppm	9 ppm	-
	1 Hour	20 ppm	35 ppm	
Nitrogen Dioxide	Annual Mean	0.030 ppm	53 ppb	Same as primary
	1 Hour	0.18 ppm	100 ppb	-
Sulfur Dioxide	24 Hour	0.04 ppm	-	-
	3 Hour	-	-	0.5 ppm
	1 Hour	0.25 ppm	75 ppb	-
Respirable Particulate Matter (PM_{10})	Annual Mean	20 ug/m^3	-	Same as primary
	24 Hour	50 ug/m^3	150 ug/m^3	
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	12 ug/m^3	12 ug/m^3	15 ug/m^3
	24 Hour	-	35 ug/m^3	Same as primary
Lead	30 Day Average	1.5 ug/m^3	-	-
	Calendar Quarter	-	1.5 ug/m^3	Same as primary
Sulfates	24 Hour	25 ug/m^3	-	-
Hydrogen Sulfide	1 Hour	0.03 ppm	-	-
Vinyl Chloride	24 Hour	0.010 ppm	-	-
Visibility Reducing Particles	8 Hour	see note below	-	-

ppm = parts per million
ppb = parts per billion
µg/m^3 = micrograms per cubic meter

Note: Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: California Air Resources Board. Ambient Air Quality Standards. May 4, 2016. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed May 2021.

Oxides of Nitrogen

NO_X are a family of gaseous nitrogen compounds and are precursors to the formation of ozone and particulate matter. The major component of NO_X, nitrogen dioxide (NO_2), is a reddish-brown gas that discolors the air and is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of NO_X. NO_X reacts with ROG to form smog, which could result in adverse impacts to human health, damage the environment, and cause poor visibility. Additionally, NO_X emissions are a major component of acid rain. Health effects related to NO_X include lung irritation and lung damage and can cause increased risk of acute and chronic respiratory disease.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels such as gasoline, oil, and wood. When CO enters the body, the CO

combines with chemicals in the body, which prevents blood from carrying oxygen to cells, tissues, and organs. Symptoms of exposure to CO can include problems with vision, reduced alertness, and general reduction in mental and physical functions. Exposure to CO can result in chest pain, headaches, reduced mental alertness, and death at high concentrations.

Sulfur Dioxide

Sulfur Dioxide (SO_2) is a colorless, irritating gas with a rotten egg odor formed primarily by the combustion of sulfur-containing fossil fuels from mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Similar to airborne NO_X, suspended sulfur oxide particles contribute to poor visibility. The sulfur oxide particles are also a component of particulate matter that is 10 micrometers in diameter and smaller (PM_{10}).

Particulate Matter

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health impacts. The USEPA is concerned about PM_{10} because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, the particles could affect the heart and lungs and cause serious health effects. USEPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles ($PM_{2.5-10}$)," which are found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5-10}$ is deposited in the thoracic region of the lungs.
- "Fine particles ($PM_{2.5}$)," which are found in smoke and haze, are 2.5 micrometers in diameter and smaller. $PM_{2.5}$ particles could be directly emitted from sources such as forest fires, or could form when gases emitted from power plants, industries, and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- “Ultrafine particles (UFP),” are very, very small particles (less than 0.1 micrometers in diameter) largely resulting from the combustion of fossil fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, their high surface area, deep lung penetration, and transfer into the bloodstream could result in disproportionate health impacts relative to their mass. UFP is not currently regulated separately, but is analyzed as part of $PM_{2.5}$.

PM_{10}, $PM_{2.5}$, and UFP include primary pollutants, which are emitted directly to the atmosphere and secondary pollutants, which are formed in the atmosphere by chemical reactions among precursors. Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources include the same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust. Long-term PM pollution, especially fine particles, could result in significant health problems including, but not limited to, the following: increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; decreased lung function; aggravated asthma; development of chronic respiratory disease in children; development of chronic bronchitis or obstructive lung disease; irregular heartbeat; heart attacks; and increased blood pressure.

Lead

Lead is a relatively soft and chemically resistant metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, and, thus, essentially persists forever. Lead forms compounds with both organic and inorganic substances. As an air pollutant, lead is present in small particles. Sources of lead emissions in California include a variety of industrial activities. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically. However, because lead was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) as a result of airborne dispersion and could become re-suspended into the air.

Because lead is only slowly excreted by the human body, exposures to small amounts of lead from a variety of sources could accumulate to harmful levels. Effects from inhalation of lead above the level of the ambient air quality standard may include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms could include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead also causes cancer.

Sulfates

Sulfates are the fully oxidized ionic form of sulfur and are colorless gases. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. The sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The sulfates standard established by CARB is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, because they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide

Hydrogen Sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations, especially in enclosed spaces (800 parts per million [ppm] can cause death).

Vinyl Chloride

Vinyl Chloride (C_2H_3Cl, also known as VCM) is a colorless gas that does not occur naturally, but is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC) which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Visibility Reducing Particles

Visibility Reducing Particles are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are also a category of environmental concern. TACs are present in many types of emissions with varying degrees of toxicity. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Common stationary sources of TACs include gasoline stations, dry cleaners, and diesel backup generators, which are subject to SMAQMD stationary source permit requirements. The other, often more significant, common source type is on-road motor vehicles, such as cars and trucks, on freeways and roads, and off-road sources such as construction equipment, ships, and trains.

Fossil fueled combustion engines, including those used in cars, trucks, and some pieces of construction equipment, release at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate matter (DPM), benzene, formaldehyde, 1,3-butadiene, toluene, xylenes, and acetaldehyde. Gasoline vapors contain several TACs, including benzene, toluene, and xylenes. Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust, DPM, is composed of carbon particles and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of such chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and NO_X. Due to the published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects, the CARB has identified DPM from diesel-fueled engines as a TAC. Although a variety of TACs are emitted by fossil fueled combustion engines, the cancer risk due to DPM exposure represents a more significant risk than the other TACs discussed above.[4]

More than 90 percent of DPM is less than one micrometer in diameter, and, thus, DPM is a subset of $PM_{2.5}$. As a California statewide average, DPM comprises about eight percent of $PM_{2.5}$ in outdoor air, although DPM levels vary regionally due to the non-uniform distribution of sources throughout the State. Most major sources of diesel emissions, such as ships, trains, and trucks, operate in and around ports, rail yards, and heavily-traveled roadways. Such areas are often located near highly populated areas. Thus, elevated DPM levels are mainly an urban problem, with large numbers of people exposed to higher DPM concentrations, resulting in greater health consequences compared to rural areas.

Due to the high levels of diesel activity, high volume freeways, stationary diesel engines, rail yards and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Construction-related activities also have the potential to generate concentrations of DPM from on-road haul trucks and off-road equipment exhaust emissions.

[4] California Air Resources Board. *Reducing Toxic Air Pollutants in California's Communities*. February 6, 2002.

The size of diesel particulates that are of the greatest health concern are fine particles (i.e., $PM_{2.5}$) and UFPs. UFPs have a small diameter (on the order of 0.1 micrometers).[5] The small diameter of UFPs imparts the particulates with unique attributes, such as high surface areas and the ability to penetrate deeply into lungs. Once UFPs have been deposited in lungs, the small diameter allows the UFPs to be transferred to the bloodstream. The high surface area of the UFPs also allows for a greater adsorption of other chemicals, which are transported along with the UFPs into the bloodstream of the inhaler, where the chemicals can eventually reach critical organs.[6] The penetration capability of UFPs may contribute to adverse health effects related to heart, lung, and other organ health.[7] UFPs are a subset of DPM and activities that create large amounts of DPM, such as the operations involving heavy diesel-powered engines, also release UFPs.

Health risks from TACs are a function of both the concentration of emissions and the duration of exposure, which typically are associated with long-term exposure and the associated risk of contracting cancer. Health effects of exposure to TACs other than cancer include birth defects, neurological damage, and death. Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to criteria air pollutants that have established AAQS. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an AAQS or emission-based threshold.

Attainment Status and Regional Air Quality Plans

The Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA) require all areas of California to be classified as attainment, nonattainment, or unclassified as to their status with regard to the NAAQS and/or CAAQS. The FCAA and CCAA require that the CARB, based on air quality monitoring data, designate portions of the State where the federal or State AAQS are not met as "nonattainment areas." Because of the differences between the national and State standards, the designation of nonattainment areas is different under the federal and State legislation. The FCAA requires areas violating the NAAQS to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CCAA requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or, provide for adoption of "all feasible measures on an expeditious schedule."

As presented in Table 4.1-3, under the CCAA, Sacramento County has been designated nonattainment for the State one-hour ozone, State and federal eight-hour ozone, State PM_{10}, and Federal $PM_{2.5}$ standards. The County is designated attainment or unclassified for all other AAQS. Due to the nonattainment designations, the SMAQMD, along with the other air districts in the SVAB region, is required to develop plans to attain the federal and State standards for ozone and particulate matter. The air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control measures have worked, and show how air pollution would be reduced. In addition, the plans include the estimated future levels of pollution to ensure that the area would meet air quality goals. Each of the attainment plans currently in effect are discussed in further detail in the Regulatory Context section of this chapter.

5 South Coast Air Quality Management District. *Final 2012 Air Quality Management Plan*. December 2012.
6 Health Effects Institute. *Understanding the Health Effects of Ambient Ultrafine Particles*. January 2013.
7 South Coast Air Quality Management District. *Final 2012 Air Quality Management Plan*. December 2012.

Table 4.1-3
Sacramento County Attainment Status Designations

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone	1 Hour	**Nonattainment**	Attainment
	8 Hour	**Nonattainment**	**Nonattainment**
Carbon Monoxide	8 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
Nitrogen Dioxide	Annual Mean	Attainment	Unclassifiable/ Attainment
	1 Hour	Attainment	Unclassifiable/ Attainment
Sulfur Dioxide	24 Hour	Attainment	-
	1 Hour	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Annual Mean	**Nonattainment**	-
	24 Hour	**Nonattainment**	Attainment
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	Attainment	Attainment
	24 Hour	-	**Nonattainment**
Lead	Rolling 3-Month Average	Attainment	Attainment
Sulfates	24 Hour	Attainment	-

Source: Sacramento Metropolitan Air Quality Management District. Air Quality Pollutants and Standards. Available at: http://www.airquality.org/air-quality-health/air-quality-pollutants-and-standards. Accessed May 2021.

Local Air Quality Monitoring

Air quality is monitored by CARB at various locations to determine which air quality standards are being violated, and to direct emission reduction efforts, such as developing attainment plans and rules, incentive programs, etc. The nearest local air quality monitoring station to the project site is the Sloughhouse station, located at 7520 Sloughhouse Road in Elk Grove, CA, approximately seven miles south of the project site. Data for $PM_{2.5}$ and PM_{10} was not available for the Sloughhouse monitoring site; thus, such data was obtained from the next nearest site, the Sacramento-Del Paso Manor monitoring site, located approximately 9.8 miles northwest of the project site at 2701 Avalon Drive, in the City of Sacramento. Table 4.1-4 shows historical occurrences of pollutant levels exceeding the State and federal AAQS for the three-year period from 2017 to 2019.

Odors

While offensive odors rarely cause physical harm, they can be unpleasant, leading to considerable annoyance and distress among the public and can generate citizen complaints to local governments and air districts. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative or formulaic methodologies to determine the presence of a significant odor impact do not exist. Adverse effects of odors on residential areas and other sensitive receptors warrant the closest scrutiny; but consideration should also be given to other land use types where people congregate, such as recreational facilities, worksites, and commercial areas. The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between a receptor and an odor source, and local meteorological conditions.

Table 4.1-4
Air Quality Data Summary (2017-2019)

Pollutant	Standard	Days Standard Was Exceeded		
		2017	2018	2019
1-Hour Ozone	State	0	2	0
	Federal	0	0	0
8-Hour Ozone	State	7	4	2
	Federal	6	4	0
24-Hour $PM_{2.5}$	Federal	6.2	10.6	0
24-Hour PM_{10}	State	18.6	12.2	*
	Federal	0	12.3	*
1-Hour Nitrogen Dioxide	State	0	0	0
	Federal	0	0	0

Note: * indicates that sufficient data was not available to determine the value.

Source: California Air Resources Board. Aerometric Data Analysis and Management (iADAM) System. Available at http://www.arb.ca.gov/adam/welcome.html. Accessed May 2021.

One of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors, also referred to as a buffer zone or setback. The greater the distance between an odor source and receptor, the less concentrated the odor emission would be when reaching the receptor.

Meteorological conditions also affect the dispersion of odor emissions, which determines the exposure concentration of odiferous compounds at receptors. The predominant wind direction in an area influences which receptors are exposed to the odiferous compounds generated by a nearby source. Receptors located upwind from a large odor source may not be affected due to the produced odiferous compounds being dispersed away from the receptors. Wind speed also influences the degree to which odor emissions are dispersed away from any area.

Odiferous compounds could be generated from a variety of source types including both construction and operational activities. Examples of common land use types that typically generate significant odor impacts include, but are not limited to wastewater treatment plants; sanitary landfills; composting/green waste facilities; recycling facilities; petroleum refineries; chemical manufacturing plants; painting/coating operations; rendering plants; and food packaging plants.

While the project site is located across from the Teichert Aggregate Grantline Plant, the materials mined at the Teichert site include aggregates such as sand and gravel. Aggregate material is not associated with any odors. Although some heavy-duty equipment could be used at the plant, the distance of the project site from the Teichert plant would not likely result in diesel odors reaching the proposed residences.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, day care centers, playgrounds, and medical facilities. A residential subdivision exists directly to the south

of the project site. The closest residences are approximately 50 feet away from the project site. The remaining surrounding areas are primarily vacant.

Greenhouse Gas Emissions

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere due to human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated carbons. Other common GHGs include water vapor, ozone, and aerosols. The increase in atmospheric concentrations of GHG due to human activities has resulted in more heat being held within the atmosphere, which is the accepted explanation for global climate change.

The primary GHG emitted by human activities is CO_2, with the next largest components being CH_4 and N_2O. A wide variety of human activities result in the emission of CO_2. Some of the largest sources of CO_2 include the burning of fossil fuels for transportation, electricity production, and industrial processes, including plastic and cement production. The primary sources of CH_4 emissions include domestic livestock sources, decomposition of wastes in landfills, releases from natural gas systems, coal mine seepage, and manure management. The main human activities producing N_2O are agricultural soil management, fuel combustion in motor vehicles, nitric acid production, manure management, and stationary fuel combustion. Emissions of GHG by economic sector indicate that energy-related activities account for the majority of U.S. emissions. The transportation sector is the largest single-source of GHG emissions, and electricity production is the second largest source, followed by industrial activities. The agricultural, commercial, and residential sectors account for the remainder of GHG emission sources.[8]

Emissions of GHG are partially offset by uptake of carbon and sequestration in trees, agricultural soils, landfilled yard trimmings and food scraps, and absorption of CO_2 by the earth's oceans. Additional emission reduction measures for GHG could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation, and project design features. Attainment concentration standards for GHGs have not been established by the federal or State government.

Global Warming Potential

Global Warming Potential (GWP) is one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. According to the USEPA, the GWP of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for comparison is CO_2. GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of CO_2, as well as the decay rate of each gas relative to that of CO_2. Each gas's GWP is determined by comparing the radiative forcing associated with emissions of that gas versus the radiative forcing associated with emissions of the same mass of CO_2, for which the GWP is set at one. Methane gas, for example, is estimated by the USEPA to have a comparative global warming potential 25 times greater than that of CO_2, as shown in Table 4.1-5.

[8] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions*. Available at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed May 2021.

Table 4.1-5
Global Warming Potentials and Atmospheric Lifetimes of Select GHGs

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	See footnote[1]	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
Hydrofluorocarbon (HFC)-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

[1] For a given amount of carbon dioxide emitted, some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

Source: USEPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019 [Table 1-2]. April 14, 2021.

As shown in the table above, at the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative GWP 22,800 times that of CO_2. The "specified time horizon" is related to the atmospheric lifetimes of such GHGs, which are estimated by the USEPA to vary from 50 to 200 years for CO_2, to 50,000 years for tetrafluoromethane. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes correlate with the GWP of a gas. The common indicator for GHG is expressed in terms of metric tons of CO_2 equivalents ($MTCO_2e$), which is calculated based on the GWP for each pollutant.

Effects of Global Climate Change

Uncertainties exist as to exactly what the climate changes will be in various areas of the Earth. According to the Intergovernmental Panel on Climate Change's Working Group II Report, *Climate Change 2007: Impacts, Adaptation and Vulnerability*,[9] climate change impacts to North America may include:

- Diminishing snowpack;
- Increasing evaporation;
- Exacerbated shoreline erosion;
- Exacerbated inundation from sea level rising;
- Increased risk and frequency of wildfire;
- Increased risk of insect outbreaks;
- Increased experiences of heat waves; and

[9] Intergovernmental Panel on Climate Change. *Summary for Policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA* [pg. 1-32]. 2014.

- Rearrangement of ecosystems as species and ecosystems shift northward and to higher elevations.

For California, climate change has the potential to cause/exacerbate the following environmental impacts:

- Increased frequency, duration, and intensity of conditions conducive to air pollution formation (particularly ozone);
- Reduced precipitation, changes to precipitation and runoff patterns, reduced snowfall (precipitation occurring as rain instead of snow), earlier snowmelt, decreased snowpack, and increased agricultural demand for water;
- Increased growing season and increased growth rates of weeds, insect pests and pathogens;
- Inundation by sea level rise;
- Increased incidents and severity of wildfire events; and
- Expansion of the range and increased frequency of pest outbreaks.

Energy

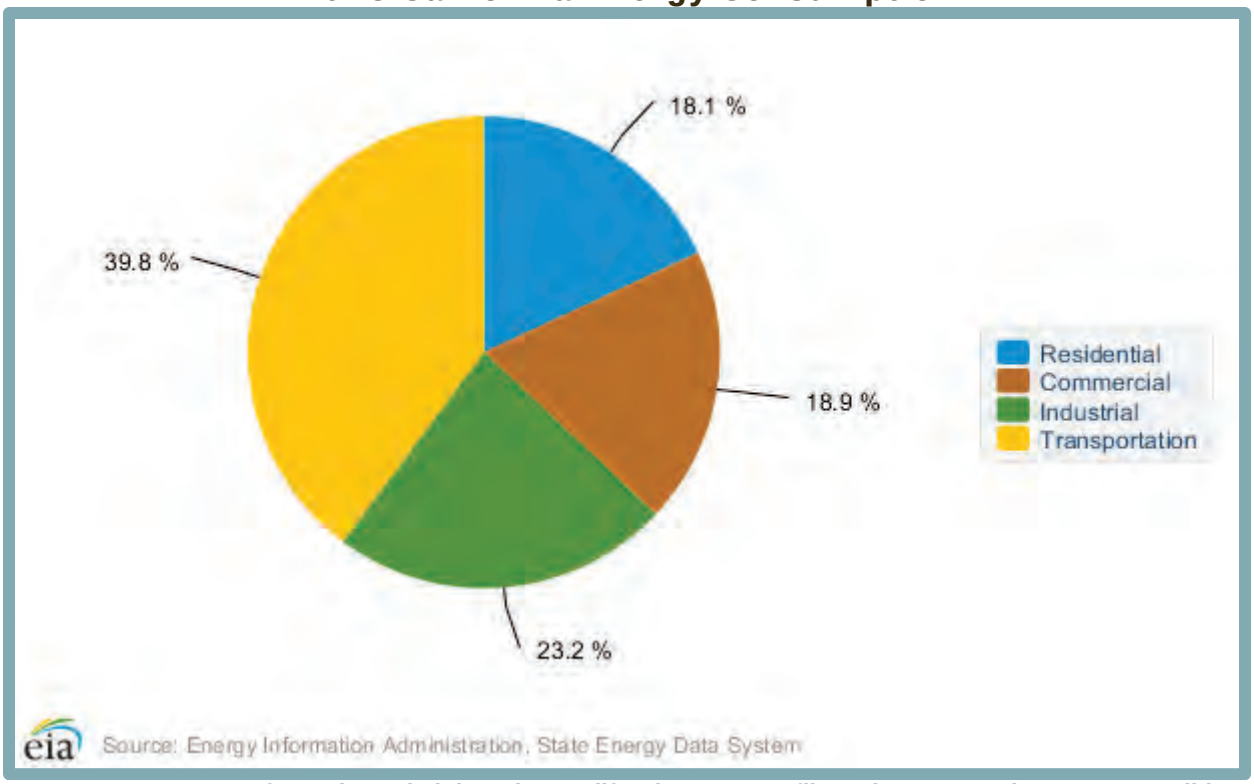
California is one of the highest energy demanding states within the nation. Activities such as heating and cooling structures, lighting, the movement of goods, agricultural production, and countless other facets of daily life consume a variety of energy sources. Energy within the state is provided primarily by the combustion of fossil fuels such as natural gas, motor gasoline, diesel, jet fuel, and, to a lesser extent, coal. In addition to the fossil fuel-based energy sources, the state is ranked second in the nation in renewable energy generation, which includes solar, geothermal, wind, and biomass resources. In fact, California leads the nation in solar thermal electricity capacity, with 73 percent of the nation's total solar thermal capacity installed within the State.[10]

Figure 4.1-1 presents energy consumption within California for the most recent year for which data is available, 2018. As shown in Figure 4.1-1, transportation-related activity consumes the largest single share of energy within the State. Within the transportation sector, motor gasoline is the dominate form of energy, with jet fuel, diesel, natural gas, and electricity supplying the remaining portions of California's transportation sector energy demand. However, when considered together, energy demand from the built-environment including the residential, commercial, and industrial sectors, represents the greatest share of total State-wide energy demand.

Electricity is provided to California consumers through a mix of sources including natural gas, hydroelectric, non-hydroelectric renewable sources, nuclear, coal, and petroleum. Of the foregoing sources of electricity, natural gas provided the greatest amount of electricity at approximately 45 percent of California's statewide supply in 2018. Meanwhile, non-hydroelectric based sources of renewable energy provided an additional 35 percent of the state's energy, with hydroelectric and nuclear providing nine and 11 percent, respectively. Coal contributed less than 0.2 percent of the State's total electricity supply.

[10] U.S. Energy Information Administration. *California: State Profile and Energy Estimates*. Available at: https://www.eia.gov/state/index.php?sid=CA. Accessed December 2020.

Figure 4.1-1
2018 California Energy Consumption



Source: U.S. Energy Information Administration. California: State Profile and Energy Estimates. Accessible at: https://www.eia.gov/state/index.php?sid=CA. Accessed May 2021.

California residents and businesses consume petroleum products for various purposes including on-road vehicles, off-road equipment, and air travel. In 2018, 49 percent of all petroleum products consumed within California consisted of motor gasoline. The second largest demand on petroleum products is jet fuel, which represents 19 percent of the petroleum products consumed, while distillate fuel oils, which includes diesel fuel, represents 16 percent of the total petroleum products demanded within the State.[11]

In the year 2019, the entire State consumed approximately 279.401.90 gigawatt hours (GWh) of electricity. Of the total electricity consumed by the State, Sacramento County consumed approximately 10,852.26 GWh, which constitutes approximately 3.9 percent of the total energy consumed within the State.[12]

Energy Consumption at the Project Site

Currently, the project site contains three single-family residences and associated outbuildings and an orchard on the northeastern portion of the site. The remainder of the site consists primarily of non-native grasses, with scattered trees located in the vicinity of the existing residences and associated access roads. Existing energy use associated with the project site would be typical of

[11] U.S. Energy Information Administration. *California: State Profile and Energy Estimates*. Available at: https://www.eia.gov/state/index.php?sid=CA. Accessed May 2021.

[12] California Energy Commission. *Electricity Consumption by County*. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed April 2021.

residential uses, requiring electricity for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape and orchard maintenance and harvesting, would involve the use of electric or gas-powered equipment.

4.1.3 REGULATORY CONTEXT

Air quality, GHG emissions, and energy are monitored and regulated through the efforts of various international, federal, State, and local government agencies. Agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the project area, monitoring or reducing GHG emissions, and monitoring or reducing energy consumption are discussed below. Although significant overlap exists within the regulatory environment for air quality, GHG emissions, and energy, the following discussion presents regulations primarily focused on air quality, GHG, and energy separately to the extent feasible.

Federal Regulations Related to Air Quality

The following discussion provides a summary of the federal regulations relevant to air quality, organized by pollutant type.

Criteria Pollutants

The FCAA, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The USEPA is responsible for implementing most aspects of the FCAA, including setting NAAQS for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric ozone protection measures, and enforcement provisions. Under the FCAA, NAAQS are established for the following criteria pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The FCAA requires the USEPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a SIP that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants/TACs

The 1977 FCAA amendments required the USEPA to identify national emission standards for hazardous air pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 FCAA Amendments, which expanded the control program for hazardous air pollutants, 189 substances and chemical families were identified as hazardous air pollutants.

Federal Regulations Related to GHG Emissions

The following are the federal regulations relevant to GHG emissions.

Federal Vehicle Standards

In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 directing the USEPA, the Department of Transportation (DOT), and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Transportation Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the USEPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 through 2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the DOT, Department of Energy, USEPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards were projected to achieve emission rates as low as 163 grams per mile of CO_2 by model year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if the foregoing emissions level was achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200), and NHTSA intended to set standards for model years 2022 through 2025 in future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by six to 23 percent over the 2010 baselines (76 FR 57106–57513).

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program would have applied to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards were expected to lower CO_2 emissions by approximately 1.1 billion MT, and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

In August 2018, the USEPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new, less-stringent standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards that were previously in place, the 2018 proposal would increase U.S. fuel consumption by approximately 0.5 million barrels per day, and would impact the global climate by 3/1000th of 1°C by 2100. California and other states stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures, and committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the USEPA and NHTSA published the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program* (84 FR 51,310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG

emissions standards and set zero-emission-vehicle mandates in California. On March 31, 2020, the USEPA and NHTSA issued the Part Two Rule, which sets CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, President Joe Biden issued an Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021. Implementation of both rules will be determined by the results of these reviews.

Federal Regulations Related to Energy

The following are the federal regulations relevant to energy.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act was originally enacted in 1975 with the intention of ensuring that all vehicles sold in the U.S. meet established fuel economy standards. Following congressional establishment of the original set of fuel economy standards the U.S. DOT was tasked with establishing additional on-road vehicle standards and making revisions to standards as necessary. Compliance with established standards is based on manufacturer fleet average fuel economy, which originally applied to both passenger cars and light trucks but did not apply to heavy-duty vehicles exceeding 8,500 pounds in gross vehicle weight. The fuel economy program implemented under the Energy Policy and Conservation Act is known as the Corporate Average Fuel Economy (CAFE) Standards. Updates to the CAFE standards since original implementation have increased fuel economy requirements and begun regulation of medium- and heavy-duty vehicles.

Energy Policy Act of 2005

The Energy Policy Act of 2005 addressed energy production in the U.S. from various sources. In particular, the Energy Policy Act of 2005 included tax credits, loans, and grants for the implementation of energy systems that would reduce GHG emissions related to energy production.

State Regulations Related to Air Quality

The following discussion summarized applicable State regulations related to air quality, organized by pollutant type. Only the most prominent and applicable California air quality-related legislation is included below; however, an exhaustive list and extensive details of California air quality legislation can be found at the CARB website (http://www.arb.ca.gov/html/lawsregs.htm).

Criteria Air Pollutants

The FCAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the CCAA of 1988, responding to the FCAA, and regulating emissions from motor vehicles and consumer products.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and do not violate the standards more than once each year.

The CAAQS for ozone, CO, SO_2 (one-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

Hazardous Air Pollutants/TACs

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner), and involved definition of a list of TACs. The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. The State list of TACs includes the federally-designated hazardous air pollutants. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over five years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

CARB Air Quality and Land Use Handbook

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB Handbook) addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities.[13] The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate-405 and Interstate-710), the San Francisco Bay, and San Diego areas. The recommendations identified by CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day".[14]

Importantly, the Introduction chapter of the CARB Handbook clarifies that the guidelines are strictly advisory, recognizing that: "[l]and use decisions are a local government responsibility. The Air Resources Board Handbook is advisory and these recommendations do not establish regulatory standards of any kind." CARB recognizes that there may be land use objectives as well as meteorological and other site-specific conditions that need to be considered by a governmental jurisdiction relative to the general recommended setbacks, specifically stating, "[t]hese recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues".[15]

[13] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
[14] *Ibid.*
[15] *Ibid.*

Diesel Particulate Matter

In 2000, CARB approved a comprehensive diesel risk reduction plan to reduce diesel emissions, including DPM, from new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk by 2020 compared with the diesel health risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. The aforementioned regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. Several Airborne Toxic Control Measures (ATCMs) exist that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 California Code of Regulations [CCR] 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

Heavy-Duty Diesel Truck and Bus Regulation

CARB adopted the final Heavy-Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce DPM (black carbon) and NO_X emissions from heavy-duty diesel vehicles. The rule requires DPM filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an ATCM to limit idling of diesel-fueled commercial vehicles on December 12, 2013. The rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than five minutes at any location (13 CCR 2485).

Asbestos

Asbestos is strictly regulated due to the serious adverse health effects resulting from exposure, including asbestosis and lung cancer, and based on the natural widespread occurrence of asbestos and the use of asbestos as a building material. CARB has established two ATCMs for naturally occurring asbestos. The first asbestos ATCM applies to Surfacing Applications (i.e., restricts the content of asbestos material used in surfacing applications, such as unpaved roads and parking lots), and the second asbestos ATCM is for Construction, Grading, Quarrying and Surface Mining Operations (i.e., requires implementation of mitigation measures to minimize asbestos-laden dust during the namesake activities).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person must not discharge from any source whatsoever 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 of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. Section 41700 also applies to sources of objectionable odors.

Heavy-Duty Vehicle Idling Emission Reduction Program

On October 20, 2005, CARB approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth equipped diesel trucks.[16] The regulation established new engine and in-use truck requirements and emission performance requirements for technologies used as alternatives to idling the truck's main engine. For example, the regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling, or optionally meet a stringent NO_X emission standard. The regulation also requires operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California. Emission producing alternative technologies such as diesel-fueled auxiliary power systems and fuel-fired heaters are also required to meet emission performance requirements that ensure emissions are not exceeding the emissions of a truck engine operating at idle.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing), off-road, heavy-duty diesel vehicles in California.[17] Such vehicles are used in construction, mining, and industrial operations. The regulation is designed to reduce harmful emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements, imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The idling limits require operators of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to less than five minutes. The idling requirements are specified in Title 13 of the CCR.

State Regulations Related to GHG Emissions

The statewide GHG emissions regulatory framework is summarized below. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues. The following discussion does not include an exhaustive list of applicable regulations; rather, only the most prominent and applicable California legislation related to GHG emissions and climate change is included below.

State Climate Change Targets

California has taken a number of actions to address climate change, including EOs, legislation, and CARB plans and requirements, which are summarized below.

EO S-3-05

EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the State agencies for implementing the EO and for reporting on progress toward the targets. The EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

[16] California Air Resources Board. *Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. October 24, 2013. Available at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm. Accessed December 2020.

[17] California Air Resources Board. *In-Use Off-Road Diesel Vehicle Regulation*. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed December 2020.

EO S-3-05 also directed the California EPA to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010.

AB 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive, multiyear program to limit California's GHG emissions at 1990 levels by 2020, and initiate the transformations required to achieve the State's long-range climate objectives. AB 32 also required that the CARB prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020. The CARB's Scoping Plan is described in further detail below.

CARB's 2007 Statewide Limit on GHG Emissions

In 2007, in accordance with California Health and Safety Code Section 38550, CARB approved a statewide limit on GHG emissions by 2020, consistent with the determined 1990 baseline (427 million metric tons [MMT] CO_2e).

EO B-18-12

EO B-18-12 (April 2012) directed State agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10 percent by 2015 and 20 percent by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing State buildings for reducing grid-based energy purchases and water use.

EO B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for an update to the CARB's Climate Change Scoping Plan: A Framework for Change (Scoping Plan) to express the 2030 target in terms of $MMTCO_2e$. The CARB's Scoping Plan is discussed in further detail below. The EO also called for State agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill (SB) 32 and AB 197

SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via the CARB's website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

CARB's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code Section 38561[a]), and to update the Scoping Plan at least once every five years. In 2008, CARB approved the first Scoping Plan. The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. The key elements of the Scoping Plan include the following:

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33 percent;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions;
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR, Section 95480 et seq.); and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15 percent from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update) defined the State's GHG emission reduction priorities for the next five years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuation of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the State's 1990 emissions level using more recent GWPs identified by the Intergovernmental Panel on Climate Change, from 427 $MMTCO_2e$ to 431 $MMTCO_2e$.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40 percent below 1990 levels by 2030 to keep California on a trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in EO S-3-05. Governor Jerry Brown called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In summer 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, CARB adopted California's *2017 Climate Change Scoping Plan* (2017 Scoping Plan) for public review and comment. The 2017 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the State's climate change priorities to 2030 and beyond. Strategies within the 2017 Scoping Plan include implementing renewable energy and energy efficiency measures, increased stringency of the LCFS, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant (SLCP) Plan, and increased stringency of SB 375 targets (discussed in further detail below). To fill the gap in additional reductions needed to achieve the 2030 target, the 2017 Scoping Plan recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20 percent.

For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15 percent reduction goal with a recommendation to aim for a community-wide goal of no more than six $MTCO_2e$ per capita by 2030, and no more than two $MTCO_2e$ per capita by 2050, which are consistent with the State's long-term goals. Such goals are also consistent with the Under 2 Memorandum of Understanding (Under 2 Coalition 2019) and the Paris Agreement, which were developed around the scientifically based levels necessary to limit global warming to below an increase of 2°C. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through Climate Action Plans [CAPs]) and provide more information regarding tools CARB is working on to support those efforts. The 2017 Scoping Plan also recognizes the CEQA streamlining provisions for project-level review where a legally adequate CAP exists.[18]

When discussing project-level GHG emissions reduction actions and thresholds in the context of CEQA, the 2017 Scoping Plan states that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development" for project-level CEQA analysis, but also recognizes that such a standard may not be appropriate or feasible for every development project. The 2017 Scoping Plan further provides that "the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."

CARB's Regulations for the Mandatory Reporting of GHG Emissions

CARB's Regulation for the Mandatory Reporting of GHG Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that the USEPA promulgated in its Final Rule on

[18] *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490; *San Francisco Tomorrow et al. v. City and County of San Francisco* (2015) 229 Cal.App.4th 498; *San Franciscans Upholding the Downtown Specific Plan v. City & County of San Francisco* (2002) 102 Cal.App.4th 656; *Sequoyah Hills Homeowners Assn. V. City of Oakland* (1993) 23 Cal.App.4th 704, 719.

Mandatory Reporting of GHGs (40 Code of Federal Regulations Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that the USEPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 $MTCO_2e$ per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 $MTCO_2e$ per year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

SB 605 and SB 1383

SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the State, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40 percent below 2013 levels by 2030 for CH_4 and HFCs, and 50 percent below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its SLCP Reduction Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

EO B-55-18

EO B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the State's GHG emissions. CARB intends to work with relevant State agencies to ensure that future scoping plan updates identify and recommend measures to achieve the carbon neutrality goal.

Mobile Sources

The following regulations relate to the control of GHG emissions from mobile sources. Mobile sources include both on-road vehicles and off-road equipment.

AB 1493

AB 1493 (Pavley) (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the State board to be vehicles that are primarily used for noncommercial personal transportation in the State. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards would result in a reduction of approximately 22 percent of GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013–2016) standards would result in a reduction of approximately 30 percent. However, as previously described within the Federal Vehicle Standards section, the USEPA's SAFE Vehicles Rule Part One, adopted in November 2019, revokes California's authority to set GHG emissions standards. As the USEPA rule is the subject of pending legal challenges and President Biden issued an EO to review Part One and Part Two, the analysis within this EIR uses the best available information at this time, as set forth in CARB's EMFAC.

EO S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) set a declining LCFS for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020 (17 CCR 95480 et seq.). Carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every eight years. SB 375 requires the State's 18 regional metropolitan planning organizations to prepare a sustainable communities strategy as part of their Regional Transportation Plans that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise a sustainable communities strategy to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to California Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not (1) regulate the use of land, (2) supersede the land use authority of cities and counties, or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with the sustainable community strategy. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the State-mandated housing element process.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. By 2025, implementation of the rule is anticipated to reduce emissions of smog-forming pollution from cars by 75 percent compared to the average new car sold in 2015. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, adopted GHG standards for model year 2017 to 2025 vehicles; the standards were estimated to reduce GHG emissions by 34 percent by 2025. The zero-emissions vehicle program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid electric vehicles in the 2018 to 2025 model years. However, implementation of the Advanced Clean Cars program is contingent upon the outcome of the on-going SAFE Vehicles Rule litigation.

EO B-16-12

EO B-16-12 (March 2012) required that State entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. The order directed

CARB, California Energy Commission (CEC), California Public Utilities Commission (CPUC), and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. EO B-16-12 did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

AB 1236

AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric-vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and a feasible method to satisfactorily mitigate or avoid the specific, adverse impact does not exist. The bill provided for appeal of that decision to the planning commission, as specified. AB 1236 required electric-vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric-vehicle charging stations. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt the ordinance by September 30, 2017.

EO N-79-20

EO N-79-20 (September 2020) establishes a Statewide goal that 100 percent of in-state vehicle sales of new passenger cars and trucks shall be zero-emission by the year 2035. The order directed the CARB to develop and propose passenger vehicle and truck regulations requiring increasing volumes of new zero-emission vehicles sold in the State in order to achieve the goal by 2035. In addition, the order required that a Zero-Emissions Vehicle Market Development Strategy be created and updated to ensure coordinated and expeditious implementation of the EO.

Water

The following regulations relate to the conservation of water, which reduces GHG emissions related to electricity demands from the treatment and transportation of water.

EO B-29-15

In response to a drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives subsequently became permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the State. In response to EO B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency, and broadens the applicability of the ordinance to include new development projects with smaller landscape areas.

EO B-37-16

Issued in May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect

differing water supply conditions across the State. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25 percent reduction called for in EO B-29-15. The SWRCB and Department of Water Resources were directed to develop new, permanent water use targets that build upon the existing State law requirements that the State achieve 20 percent reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

EO B-40-17

EO B-40-17 (April 2017) lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinded EO B-29-15, but expressly stated that EO B-37-16 remains in effect and directed the SWRCB to continue development of permanent prohibitions on wasteful water use.

Solid Waste

The following regulations relate to the generation of solid waste and means to reduce GHG emissions from solid waste produced within the State.

AB 939 and AB 341

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code [PRC] Sections 40000 et seq.), was passed because of the observed increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25 percent by 1995 and 50 percent by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that the policy goal of the State is that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery to develop strategies to achieve the State's policy goal.

Other State Actions

The following State regulations are broadly related to GHG emissions.

SB 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities. The advisory further recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural

Resource Agency (CNRA) adopted the CEQA Guidelines amendments in December 2009, and the amended CEQA Guidelines became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis, or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply the lead agency's own thresholds of significance or those developed by other agencies or experts. CNRA acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

With respect to GHG emissions, the CEQA Guidelines state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions (14 CCR 15064.4[a]). The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

EO S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs State agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009, and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014. To assess the State's vulnerability, the report summarizes key climate change impacts to the State for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the *Safeguarding California: Implementation Action Plans* followed in March 2016. In January 2018, the CNRA released the *Safeguarding California Plan: 2018 Update,* which communicates current and needed actions that State government should take to build climate change resiliency.

State Regulations Related to Energy

The State has adopted various regulations aimed at reducing energy consumption, increasing energy efficiency, and mandating sourcing requirements for electricity production.

Building Energy

The following regulations relate to energy efficiency and energy use reductions in the built environment.

Title 24, Part 6

Title 24 of the CCR was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed periodically, and revised if necessary, by the Building Standards Commission and CEC (PRC Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). The regulations are scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, the standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2020. The 2019 Title 24 Building Energy Efficiency Standards reduced energy used and associated GHG emissions compared to the previous 2016 Title 24 standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately seven percent less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards use approximately 53 percent less energy than those under the 2016 standards. Nonresidential buildings built to the 2019 standards use an estimated 30 percent less energy than those built to the 2016 standards.

Title 24, Part 11

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The original CALGreen standards have been updated several times. The CALGreen 2019 standards, which are the current standards, improved upon the 2016 CALGreen standards, and went into effect on January 1, 2020. The mandatory standards require the following:

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings;
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance;
- 65 percent of construction and demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency;

- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations; and
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 80 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

Title 20

Title 20 of the CCR requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1

SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the California PRC, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption, and placing solar energy systems on 50 percent of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

AB 1470

AB 1470 established the Solar Water Heating and Efficiency Act of 2007. The bill made findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. AB 1470 required the CEC to evaluate the data available from a specified pilot program, and, if the CEC made a specified determination, to

design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

AB 1109

Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50 percent for indoor residential lighting and by 25 percent for indoor commercial lighting.

Renewable Energy and Energy Procurement

The following regulations relate to the source of electricity provided to consumers within the State, as well as standards related to the generation of electricity within the State.

Renewable Portfolio Standard (RPS) and SB 100

Established in 2002 under SB 1078 (which added Section 387, 390.1, and 399.25 to the Public Utilities Code and added Article 16 to Chapter 2.3 of Part 1 Division 1 of the Public Utilities Code), accelerated in 2006 under SB 107 (which amended Sections 25620.1, 25740, 25741, 25742, 25743, 25746, and 25751 of, added Sections 25470.5 and 25744.5, and repealed Sections 25745 and 25749 of, the PRC, as well as amending Sections 87, 399.11, 399.12, 399.13, 399.14, and 399.15 of the Public Utilities Code, adding Article 9 to Chapter 3 of Part 1 of Division 1 of the Public Utilities Code, and to repeal and add Section 399.16 of the Public Utilities Code), and expanded in 2011 under SB 2 (which amended Sections 5740, 25740.5, 25741, 25742, 25746, 25747, and 25751 of the PRC, added Section 25519.5 to the PRC, to add and repeal Section 25741.5 of, the PRC, and to amend Sections 399.11, 399.12, 399.20, and 454.5 of, to amend, renumber, and add Sections 399.13 and 399.16 of, to add Sections 399.18, 399.19, 399.26, 399.30, 399.31, and 1005.1, to add Article 11 (commencing with Section 910) to Chapter 4 of Part 1 of Division 1 of, to repeal Section 387 of, and to repeal and add Sections 399.14, 399.15, and 399.17 of, the Public Utilities Code), California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

Since the inception of the RPS program, the program has been extended and enhanced multiple times. In 2015, SB 350 (An act to add Section 44258.5 to the Health and Safety Code, to amend Section 1720 of the Labor Code, to amend Sections 25310 and 25943 of, and to add Sections 25302.2 and 25327 to, the PRC, and to amend Sections 359, 399.4, 399.11, 399.12, 399.13, 399.15, 399.16, 399.18, 399.21, 399.30, 454.55, 454.56, 701.1, 740.8, 9505, and 9620 of, to amend and repeal Sections 337 and 352 of, to add Sections 237.5, 365.2, 366.3, 454.51, 454.52, 740.12, 9621, and 9622 to, to add Article 17 (commencing with Section 400) to Chapter 2.3 of Part 1 of Division 1 of, to add and repeal Article 5.5 (commencing with Section 359.5) of Chapter 2.3 of Part 1 of Division 1 of, and to repeal Article 5 (commencing with Section 359) of Chapter 2.3 of Part 1 of Division 1 of, the Public Utilities Code) extended the State's RPS program by requiring that publicly owned utilities procure 50 percent of their electricity from renewable energy sources by 2030. The requirements of SB 350 were expanded and intensified in 2018 through the adoption of SB 100 (An act to amend Sections 399.11, 399.15, and 399.30 of, and to add Section 454.53 to, the Public Utilities Code), which mandated that all electricity generated within the State by publicly owned utilities be generated through carbon-free sources by 2045. In addition, SB 100 increased the previous renewable energy requirement for the year 2030 by 10 percent; thus, requiring that 60 percent of electricity generated by publicly owned utilities originate from renewable sources by the year 2030.

Local Regulations

The most prominent local regulations related to air quality, GHG emissions, and energy are established by the SMAQMD and the Rancho Cordova General Plan and are discussed in further detail below.

Sacramento Metropolitan Air Quality Management District

The SMAQMD regulates many sources of pollutants in the ambient air as well as GHG emissions, and is responsible for implementing certain programs and regulations for controlling air pollutant and GHG emissions to improve air quality in order to attain federal and State AAQS and reduce GHG emissions in compliance with State goals.

Air Quality Attainment Plan

As a part of the SVAB federal ozone nonattainment area, the SMQAMD works with the other local air districts within the Sacramento area to develop a regional air quality management plan under the FCAA requirement. The regional air quality management plan is called the SIP which describes and demonstrates how Sacramento County, as well as the Sacramento nonattainment area, would attain the required federal ozone standard by the proposed attainment deadline. In accordance with the requirements of the FCAA, the SMQAMD, along with the other air districts in the region, prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan) in December 2008. The CARB determined that the Ozone Attainment Plan met federal Clean Air Act requirements and approved the Plan on March 26, 2009 as a revision to the SIP. An update to the plan, *2017 Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2017 Ozone Attainment Plan), was prepared and adopted by CARB on November 16, 2017. An additional update to the plan was prepared and adopted by CARB on October 15, 2018, and known as the *2018 Updates to the California State Implementation Plan.*

The 2013 Ozone Attainment Plan, and subsequent updates, demonstrate how existing and new control strategies would provide the necessary future emission reductions to meet the FCAA requirements, including the NAAQS. It should be noted that in addition to strengthening the 8-hour ozone NAAQS, the USEPA also strengthened the secondary 8-hour ozone NAAQS, making the secondary standard identical to the primary standard. The SVAB remains classified as a severe nonattainment area for ozone with an attainment deadline of 2027. On October 26, 2015, the USEPA released a final implementation rule for the revised NAAQS for ozone to address the requirements for reasonable further progress, modeling and attainment demonstrations, and reasonably available control measures (RACM) and reasonably available control technology (RACT). The USEPA published designations for areas in attainment/unclassifiable for the 2015 ozone standards. The USEPA identified the entire Sacramento County as nonattainment for the 2015 ozone standards.[19]

Rancho Cordova General Plan

The following goals and policies related to air quality are from the Rancho Cordova General Plan:

Air Quality Element

Goal AQ.1 Ensure a healthy community by participating in local and regional efforts to meet or exceed all state and federal air quality standards.

[19] U.S. Environmental Protection Agency. *Nonattainment and Unclassifiable Area Designations for the 2015 Ozone Standards*. April 30, 2018.

Policy AQ.1.1 Coordinate with responsible agencies and other jurisdictions to improve air quality within Rancho Cordova and the greater Sacramento region.

Policy AQ.1.2 Evaluate projects for compliance with State and federal ambient air quality standards and the Sacramento Metropolitan Air Quality Management District's (SMAQMD) thresholds of significance.

Policy AQ.1.3 The City shall prohibit wood-burning open masonry fireplaces in all new development. Fireplaces with EPA-approved inserts, EPA-approved stoves, and fireplaces burning natural gas will be allowed.

Policy AQ.1.4 The City shall develop an incentive program to encourage homeowners to replace high-pollution emitting non-EPA-certified wood stoves that were installed before the effective date of the applicable EPA regulation with newer cleaner-burning EPA-certified wood stoves.

Policy AQ.1.5 Require odor impact analyses be conducted for evaluating new development requests that either could generate objectionable odors that may violate SMAQMD Rule 402 or any subsequent rules and regulations regarding objectionable odors near sensitive receptors or locate new sensitive receptors near existing sources of objectionable odors. Should objectionable odor impacts be identified, odor mitigation shall be required in the form of setbacks, facility improvements or other appropriate measures.

Goal AQ.2 Support land use patterns and densities that lessen air quality impacts.

Policy AQ.2.1 Promote strategic land use patterns for businesses that reduce the number and length of motor vehicle trips and that encourage multiple forms of transportation for employees and patrons.

Policy AQ.2.2 Encourage mixed-use developments that put residences in close proximity to services, employment, transit, schools, and civic facilities/services.

Policy AQ.2.3 Encourage infill development as a way to reduce vehicle trips and improve air quality.

Policy AQ.2.4 Maximize air quality benefits through selective use of landscaping vegetation that is low in emission of volatile organic compounds, and through revegetation of appropriate areas.

Goal AQ.3 Support multiple forms of transportation and a circulation system design that reduces vehicle trips and emissions.

Policy AQ.3.1 Promote walking and bicycling as viable forms of transportation to services, shopping, and employment.

Policy AQ.3.2 Promote mass transit as an alternative to single-occupant motor vehicle travel.

Policy AQ.3.3 Involve local businesses in creating, maintaining, or promoting mass transit opportunities and reducing vehicle emissions.

Policy AQ.3.4 Emphasize "demand management" strategies that seek to reduce single occupant vehicle use in order to achieve state and federal air quality plan objectives.

Goal AQ.4 Support energy conservation, the use of alternative fuels, clean vehicles and industries to reduce air quality impacts.

Policy AQ.4.1 Promote improved air quality benefits through energy conservation measures for new and existing development.

Policy AQ.4.2 Support vehicle improvements and the use of clean vehicles that reduce emissions and improve air quality.

Policy AQ.4.4 Support SMAQMD's program of retrofitting construction equipment.

Natural Resources Element

Goal NR.7 Reduce per capita energy consumption.

Policy NR.7.1 Increase energy conservation Citywide.

Policy NR.7.2 Promote the development and use of advanced energy technology and building materials in Rancho Cordova.

Policy NR.7.3 Encourage the development of energy efficient buildings and subdivisions.

Policy NR.7.4 Promote energy rebate programs offered by local energy providers (e.g., SMUD, PG&E) as a way to bring energy efficiency into older neighborhoods and developments.

4.1.4 IMPACTS AND MITIGATION MEASURES

The standards of significance and methodology used to analyze and determine the proposed project's potential project-specific impacts related to air quality and GHG emissions are described below. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Based on the recommendations of SMAQMD, and consistent with Appendix G of the CEQA Guidelines, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. For the purposes of this EIR, an impact is considered significant if the proposed project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations (including localized CO concentrations and TAC emissions);
- Result in other emissions (such as those leading to odors) affecting a substantial number of people;
- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

Criteria Pollutant Emissions and TAC Emissions

In order to evaluate criteria air pollutant emissions from development projects, SMAQMD has established significance thresholds for emissions of NO_X, ROG, PM_{10}, and $PM_{2.5}$. The significance thresholds serve as air quality standards in the evaluation of air quality impacts associated with proposed development projects. Thus, if the proposed project's emissions exceed the SMAQMD thresholds, the project could have a significant effect on regional air quality and attainment of federal and State AAQS. The SMAQMD's recommended thresholds of significance are listed in Table 4.1-6. Therefore, if the proposed project's emissions exceed the pollutant thresholds presented in Table 4.1-6, the project could have a significant effect on air quality, the attainment of federal and State AAQS, and could conflict with or obstruct implementation of the applicable air quality plan.

Table 4.1-6
SMAQMD Thresholds of Significance

Pollutant	Construction Threshold	Operational Threshold
NO_X	85 lbs/day	65 lbs/day
ROG	-	65 lbs/day
PM_{10}	80 lbs/day and 14.6 tons/yr	80 lbs/day and 14.6 tons/yr
$PM_{2.5}$	82 lbs/day and 15 tons/yr	82 lbs/day and 15 tons/yr

Source: SMAQMD Thresholds of Significance Table, April 2020.

For TAC emissions, if a project would introduce a new source of TAC or a new sensitive receptor near an existing source of TAC that would not meet the CARB's minimum recommended setback, a detailed health risk assessment may be required. Neither SMAQMD nor the City has established quantitative thresholds of significance for construction-related TAC emissions.

GHG Emissions and Other Cumulative Emissions

Nearly all development projects in the region have the potential to generate air pollutants that may increase global climate change. SMAQMD has adopted thresholds of significance for GHG emissions during construction and operations of projects.

This GHG analysis has been prepared to show compliance with SMAQMD's GHG thresholds of significance.

Where a residential or mixed-use residential project is consistent with an applicable Sustainable Communities Strategy (SCS) that the State Air Resources Board (CARB) has determined, if implemented, will achieve the greenhouse gas emission reduction targets for the region, and the residential or mixed-use residential project incorporates mitigation measures from a prior applicable environmental document, then, pursuant to PRC Section 21159.28, the environmental review completed for the residential or mixed-use residential project is not "required to reference, describe, or discuss … any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network." (PRC, Section 21159.28[a])

The Sacramento Area Council of Governments (SACOG) approved its current 2020 SCS on November 18, 2019. On October 26, 2020, CARB accepted that "SACOG's determination that the SCS adopted by the SACOG Board of Directors on November 18, 2019, would, when implemented, achieve the applicable GHG emissions reduction target for automobiles and light trucks of 19 percent per capita reduction by 2035, relative to 2005 levels, as established by CARB for the region."

As explained in SACOG's 2020 SCS, Rancho Cordova has emerged as a regional job center over the past twenty years. However, housing development has not kept up with employment growth in the City. To help improve the City's job/housing balance, the 2020 SCS forecasts construction of an additional 1,070 new housing units in the Established Communities community type within the City. As SACOG's 2020 SCS was approved in late 2019, few housing units have been developed in the City's Established Communities community type since SACOG adopted the plan. By proposing the creation of 440 residential lots within the City's Established Communities community type, the proposed project is consistent with the 2020 SCS's use designation and build-out forecast for the site and will help to address the City's existing job/housing imbalance. Furthermore, the proposed project is consistent with, and will implement, all applicable General Plan Policies. As a result, pursuant to PRC Section 21159.28, this EIR is not required to reference, describe, or discuss any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network. For this reason, in evaluating the proposed project's consistency with SMAQMD's GHG thresholds of significance (discussed further below), the City could evaluate consistency excluding project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming. However, notwithstanding PRC Section 21159.28, to be conservative, in applying SMAQMD's GHG thresholds of significance to the proposed project, this EIR does not exclude emissions from cars and light-duty truck trips.

As such, if the proposed project would result in GHG emissions in excess of the thresholds of significance shown in Table 4.1-7, including emissions associated with cars and light-duty truck trips, the project could be considered to result in a potentially significant impact related to global climate change and mitigation measures would be required to reduce the impact.

Table 4.1-7 **SMAQMD GHG Thresholds of Significance ($MTCO_2e$/year)**	
Construction	**Operations**
1,100	1,100
Source: SMAQMD Thresholds of Significance Table, April 2020.	

To accomplish consistency with statewide and regional GHG reduction goals, SMAQMD has prepared a two-tiered framework of analysis for new projects.

Tier 1

All projects within SMAQMD's jurisdiction would be required to comply with the Best Management Practices (BMPs) included in Tier 1. The proposed Tier 1 BMPs are as follows:

- ***BMP 1:*** No natural gas: Projects shall be designed and constructed without natural gas infrastructure.
- ***BMP 2:*** Electric vehicle (EV) ready: Projects shall meet the current CALGreen Tier 2 standards, except all EV Capable spaces shall instead be EV Ready.

If a project would not comply with both of the foregoing BMPs, the project would be required to include features that would achieve an equivalent level of GHG emissions reductions. For instance, a project that includes natural gas infrastructure may include pre-wiring to allow for the future retrofit of all natural gas appliances with all-electric appliances. Furthermore, projects that are below the Governor's Office of Planning and Research's (OPR's) *de minimis* vehicle miles travelled (VMT) criteria, and/or projects that emit less than 1,100 $MTCO_2e$/yr prior to implementation of BMP 1 and BMP 2 would be considered sufficiently small to screen out of further requirements, and would be assumed to result in a less-than-significant impact related to GHG emissions and climate change.

The following types of projects would be considered to be below the OPR's *de minimis* VMT criteria:

- Small projects that generate or attract fewer than 110 trips per day;
- Residential and office projects in areas with low VMT (currently below threshold VMT) that incorporate similar features (i.e., density, mix of uses, transit accessibility), including affordable housing infill development; or
- Residential, retail, office, or mixed-use projects within 0.5-mile walking distance of an existing major transit stop or existing stop along a high-quality transit corridor, unless the primary use of the site is auto-oriented (e.g., car dealership, car wash, gas station).

Projects that are not small enough to screen out of further review are subject to review under Tier 2 of SMAQMD's updated thresholds.

Tier 2

The second tier of SMAQMD's updated thresholds includes the following BMP:

- ***BMP 3***: Residential projects shall achieve a 15 percent reduction in VMT per resident, and office projects should achieve a 15 percent reduction in VMT per worker compared to existing average VMT per capita for the county, or for the city if a more local SB 743 target has been established. It is noted that the City of Rancho Cordova establishes the same

VMT threshold of 15 percent reduction in VMT per resident.[20] VMT reductions can be achieved by many strategies, such as:

- Locate in an area that already has low VMT due to location, transit service, etc.;
- Adopt CAPCOA measures;
- Adopt measures noted in Sacramento's CAP checklist;
- Join a Transportation Management Association;
- Incorporate traffic calming measures;
- Incorporate pedestrian facilities and connections to public transportation; and/or
- Promote electric bicycle or other micro-mobility options.

If a project cannot incorporate the foregoing BMPs, other reductions or purchasing and retiring of GHG/carbon offsets can be used as an alternative method of compliance.

In accordance with CARB and SMAQMD recommendations, the City of Rancho Cordova, as lead agency, uses the currently adopted SMAQMD GHG thresholds of significance as presented above. Therefore, if the proposed project would result in construction GHG emissions in excess of 1,100 $MTCO_2e$/yr or if the project would not achieve the SMAQMD's operational GHG requirements, the project would be considered to result in a cumulatively considerable contribution to global climate change.

With regard to other cumulative emissions, such as the cumulative emissions of criteria air pollutants, the SMAQMD directs lead agencies to use the region's existing attainment plans as a basis for analysis of cumulative emissions. If a project would interfere with an adopted attainment plan, the project would inhibit the future attainment of AAQS, and thus result in a significant incremental contribution to cumulative emissions. As discussed throughout this Chapter, the SMAQMD's recommended thresholds of significance for ozone precursors and PM_{10} are based on attainment plans for the region. Thus, SMAQMD concluded that if a project's ozone precursor and PM_{10} emissions would be less than the associated thresholds, the project would not be expected to conflict with any relevant attainment plans, and would not result in a cumulatively considerable contribution to a significant cumulative impact. As a result, the operational phase cumulative-level emissions thresholds established by SMAQMD are identical to the project-level operational emissions thresholds; the operational/cumulative thresholds for criteria pollutants are presented in Table 4.1-6.

Energy

Quantitative thresholds for the analysis of potential impacts related to energy consumption have not been adopted by any local, regional, or statewide entities. Consequently, potential impacts of the project related to energy will be determined based on whether the project would result in wasteful, inefficient, or unnecessary use of energy. In addition, the potential for the project to conflict with or obstruct a state or local plan for renewable energy generation or energy efficiency will be considered. The analysis of energy consumption will include consideration of energy demand during both project construction and operations.

[20] City of Rancho Cordova. *City of Rancho Cordova Transportation Impact Guidelines*. June 2, 2020.

Method of Analysis

The analysis protocol and guidance provided by the SMAQMD's *CEQA Guide*, including screening criteria and pollutant thresholds of significance, was used to analyze the proposed project's air quality impacts.

Construction Emissions

The proposed project's short-term construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software, which is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the ITE Manual, vehicle mix, trip length, average speed, etc. Where project-specific information is available, such information should be applied in the model. Accordingly, the proposed project's construction modeling assumes the following based on applicant-provided project-specific data:

- Construction would begin in the year 2021;
- Construction would occur over an approximately two-year period;
- 12,000 square feet of existing buildings would be demolished;
- Approximately 10,000 cubic yards of soil would be imported during grading;
- The proposed project would improve the pedestrian network connectivity; and
- The project would comply with all applicable provisions of the 2019 California Building Standard Code (CBSC), 2019 CALGreen Code, and Model Water Efficiency Landscape Ordinance (MWELO).

The results of construction emissions estimations were compared to the standards of significance discussed above in order to determine the associated level of impact. All CalEEMod modeling results are included in Appendix C to this EIR.

Operational Emissions and Operational Energy Use

The proposed project's operational emissions were estimated using CalEEMod. Based on project-specific construction information provided by the project applicant, the proposed project is anticipated to be fully operational by 2023. The modeling performed for the proposed project included compliance with SMAQMD rules and regulations as well as with the 2019 California Building Energy Efficiency Standards Code, which is part of the CBSC. The proposed project's compliance with such would be verified as part of the City's building approval review process. Kimley-Horn & Associates, Inc. provided project-specific trip generation rates[21] and VMT data,[22] which were applied to the project modeling. In compliance with the 2019 CBSC, the modeling for project operations included the assumption that 100 percent of the electricity required for project operations would be provided by on-site renewable energy systems.

The results of operational emissions estimations were compared to the standards of significance discussed above in order to determine the associated level of impact. All CalEEMod modeling results are included in Appendix C to this EIR.

[21] Kimley-Horn. *Traffic Impact Analysis for The Preserve, City of Rancho Cordova, California.* November 4, 2020.
[22] Kimley-Horn. *The Preserve,Vehicle Miles Traveled (VMT) Evaluation.* March 5, 2021.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.1-1 Conflict with or obstruct implementation of the applicable air quality plan during project construction. Based on the analysis below, the impact is *less than significant*.

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site and in off-site improvement areas. Construction-related emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction workers' commute, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM emissions. As construction of the proposed project would generate emissions of criteria air pollutants, including ROG, NO_X, and PM_{10}, intermittently within the site and in the vicinity of the site, until all construction has been completed, construction is a potential concern, as the proposed project is located in a nonattainment area for ozone and PM.

Table 4.1-8 below presents the estimated construction-related emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with the proposed project in comparison with the SMAQMD thresholds of significance as described above. The construction modeling assumptions are described in the Method of Analysis section above.

As shown in Table 4.1-8, construction activities would result in emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ below the applicable SMAQMD thresholds of significance. Therefore, construction activities associated with development of the proposed project would not substantially contribute to the SVAB's non-attainment status for ozone or PM. Accordingly, construction of the proposed project would not violate an air quality standard or contribute to an existing or projected air quality violation, and a less-than-significant impact would occur associated with construction.

Table 4.1-8
Maximum Unmitigated Construction-Related Emissions

Pollutant	Project Emissions	Construction Threshold	Exceeds Threshold?
NO_X	54.00 lbs/day	85 lbs/day	**NO**
ROG	28.63 lbs/day	-	**NO**
PM_{10}	20.32 lbs/day and 0.53 tons/yr	80 lbs/day and 14.6 tons/yr	**NO**
$PM_{2.5}$	11.87 lbs/day and 0.28 tons/yr	82 lbs/day and 15 tons/yr	**NO**

Source: CalEEMod, May 2021.

It should be noted that construction activity related to implementation of the proposed project is required to comply with all SMAQMD rules and regulations. The applicable rules and regulations would include, but would not be limited to, the following:

- Rule 403 related to Fugitive Dust;
- Rule 404 Related to Particulate Matter;
- Rule 407 related to open burning;
- Rule 442 related to Architectural Coatings;
- Rule 453 related to Cutback and Emulsified Asphalt Paving Materials; and
- Rule 460 related to Adhesives and Sealants.

In addition, the control of fugitive dust during construction is required by SMAQMD Rule 403, and enforced by SMAQMD staff. The BMPs for dust control include the following:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads;
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered;
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited;
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph);
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [CCR Title 13, Sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site;
- Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [CCR Title 13, Sections 2449 and 2449.1]. For more information contact CARB at 877-593-6677, doors@arb.ca.gov, or www.arb.ca.gov/doors/compliance_cert1.html.; and
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Compliance with the foregoing measures is required per Rule 403, and the City would enforce compliance with Rule 403 as a condition of approval of the proposed project. Thus, project construction is assumed to include compliance with the foregoing BMPs.

Conclusion

Construction activities associated with the proposed project would be required to comply with all SMAQMD BMPs, and would therefore adhere to local air quality plans. Nonetheless, the emissions resulting from construction activity are anticipated to fall below SMAQMD's applicable thresholds of significance. Thus, implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan related to the region's nonattainment status for ozone, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.1-2 Conflict with or obstruct implementation of the applicable air quality plan during project operation. Based on the analysis below, the impact is *less than significant*.

Operational emissions of ROG, NO_X, and PM would be generated by the proposed project from both mobile and stationary sources. Day-to-day activities such as the future residents' vehicle trips to and from the project site would make up the majority of the mobile emissions. Emissions would occur from area sources such as natural gas combustion from heating mechanisms, landscape maintenance equipment exhaust, fireplaces, and consumer products (e.g., deodorants, cleaning products, spray paint, etc.).

As discussed above, due to the nonattainment designations of the area, the SMAQMD has developed plans to attain the State and federal standards for ozone and particulate matter. The current applicable air quality plan for the proposed project area is the *Sacramento Regional 2009 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan), updated July 24, 2017. The Ozone Attainment Plan demonstrates how existing and new control strategies would provide the necessary future emission reductions to meet the CAA requirements, including the federal AAQS. Adopted SMAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with the applicable air quality plan. Thus, if a project's operational emissions exceed the SMAQMD's mass emission thresholds, a project would be considered to conflict with or obstruct implementation of the SMAQMD's air quality planning efforts.

Emissions of ROG, NO_X, and PM_{10} would be generated during operations of the proposed project from both mobile and stationary sources. Emissions related to operation of the proposed project would include sources such as architectural coatings, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, detergents, hair spray, cleaning products, spray paint, insecticides, floor finishes, polishes, etc.). However, the most significant source of emissions related to the proposed project would be from mobile sources. As discussed in the Method of Analysis section above, to capture the potential emissions related to mobile sources from the proposed project, Kimley-Horn & Associates, Inc. prepared project-specific trip generation rates and VMT estimates.

The project is required to comply with all SMAQMD rules and regulations related to operations, such as the following:

- Rule 414 related to water heaters; and
- Rule 417 related to wood-burning appliances.

The modeling was adjusted to reflect the project's inherent site or design features (i.e., proximity to nearest planned bus stop), and compliance with applicable regulations

(i.e., 2019 California Building Energy Efficiency Standards). Based on project-specific information, the project was assumed to include natural gas hearths in each of the proposed residential units. It should be noted that the project would not involve installation or operation of any pieces of equipment that would require implementation of SMAQMD's Best Available Control Technology (BACT) measures; therefore, the project would be subject to SMAQMD's mass emissions thresholds for PM_{10} and $PM_{2.5}$.

The maximum unmitigated operational emissions for the proposed project are presented in Table 4.1-9 below.

Table 4.1-9
Maximum Unmitigated Project Operational Emissions

Pollutant	Project Emissions	Operational Threshold	Exceeds Threshold?
NO_X	29.54 lbs/day	65 lbs/day	**NO**
ROG	28.81 lbs/day	65 lbs/day	**NO**
PM_{10}	24.66 lbs/day and 4.33 tons/yr	80 lbs/day and 14.6 tons/yr	**NO**
$PM_{2.5}$	7.03 lbs/day and 1.23 tons/yr	82 lbs/day and 15 tons/yr	**NO**

Source: CalEEMod, May 2021.

As shown in Table 4.1-9, the emissions resulting from operation of the proposed project would be below all applicable SMAQMD thresholds. Based on the emissions presented in Table 4.1-9, operation of the proposed project would not create a conflict with nor obstruction of implementation of the applicable air quality plan, and a ***less-than-significant*** impact would result.

Mitigation Measure(s)
None required.

4.1-3 Expose sensitive receptors to substantial pollutant concentrations. Based on the analysis below, and with the implementation of mitigation, the impact is *less than significant*.

As noted previously, the nearest sensitive receptors to the project site are the residential subdivision directly to the south of the project site. The closest residences are approximately 50 feet away from the project site.

The major pollutant concentrations of concern are localized CO emissions, TAC emissions, and criteria pollutant emissions, which are addressed in further detail below.

Localized CO Emissions
Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Per the SMAQMD Guide, emissions of CO are generally of less concern than other criteria pollutants, as operational activities are not likely to generate substantial quantities of CO, and the SVAB has been in attainment for CO

for multiple years.[23] Consequently, the proposed project is not anticipated to result in significant impacts to air quality related to localized CO emissions.

TAC Emissions

Another category of environmental concern are TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified DPM from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. The CARB's Handbook includes facilities (distribution centers) associated with 100 or more heavy-duty diesel trucks per day as a source of substantial DPM emissions. The proposed project is not a distribution center, and is not located near any existing distribution centers. Residential developments do not involve frequent heavy-duty diesel truck trips. Some future residents may own diesel-fueled vehicles; however, emissions from passenger vehicles are typically less intense than from heavy-duty trucks, and the likelihood that the equivalent of 100 heavy-duty diesel trucks per day would occur from diesel-fueled passenger vehicles to and from the site is very low. Accordingly, the proposed project would not involve diesel trucks at the site in excess of 100 per day and would not be expected to expose any existing sensitive receptors to substantial DPM emissions associated with truck trips. As such, the proposed project would not generate any substantial pollutant concentrations during operations.

Construction-related activities have the potential to generate concentrations of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. However, construction would be temporary and would occur over a relatively short duration in comparison to the operational lifetime of the proposed project. While methodologies for conducting health risk assessments are associated with long-term exposure periods (e.g., over a 30-year period or longer), construction activities associated with the proposed project were estimated to occur over an approximately two-year period. Only portions of the site would be disturbed at a time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location on the project site. In addition, all construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation includes emissions reducing requirements such as limitations on vehicle idling, disclosure, reporting, and labeling requirements for existing vehicles, as well as standards relating to fleet average emissions and the use of BACTs. Thus, off-road diesel vehicles used during construction of the proposed

[23] Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment, Chapter 4: Operational Criteria Air Pollutant and Precursor Emissions*. June 2020.

project would be required to comply with statewide emissions reductions targets. Project construction would also be required to comply with all applicable SMAQMD rules and regulations, particularly associated with permitting of air pollutant sources. In addition, construction equipment would operate intermittently throughout the course of a day, would be restricted to daytime hours per Section 6.68.090 of the Rancho Cordova Municipal Code, and would likely only occur over portions of the project site at a time. Considering the intermittent nature of construction equipment operating within an influential distance to the nearest sensitive receptors, the duration of construction activities in comparison to the operational lifetime of the project, the typical long-term exposure periods associated with conducting health risk assessments, and compliance with regulations, the likelihood that any one nearby sensitive receptor would be exposed to high concentrations of DPM for any extended period of time would be low. Nonetheless, because heavy equipment would operate in close proximity to the sensitive receptors to the south of the project site, such receptors could be exposed to increased pollutant concentrations. Without the implementation of mitigation, construction activities associated with the project could result in a potentially significant impact related to the exposure of sensitive receptors to substantial concentrations of DPM.

Naturally-Occurring Asbestos

According to the *Special Report 192: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California,* prepared by the Department of Conservation, the project site is located within an area categorized as least likely to contain naturally-occurring asbestos (NOA). The geology in the project site is known to consist of sedimentary rocks, whose deposits are generally less likely to contain NOA due to the composition and lack of metamorphism. Faults and serpentinite outcroppings are not known to be in the project area.[24] Consequently, NOA is not anticipated to be present on the project site.

Criteria Pollutants

Recent rulings from the California Supreme Court (including the *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 case regarding the proposed Friant Ranch Project) have underscored the need for analysis of potential health impacts resulting from the emission of criteria pollutants during operations of proposed projects. Although analysis of project-level health risks related to the emission of CO and TACs has long been practiced under CEQA, the analysis of health impacts due to individual projects resulting from emissions of criteria pollutants is a relatively new field. SMAQMD released the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* (Guidance) for the analysis of criteria emissions in areas within the District's jurisdiction.[25] The Guidance represents SMAQMD's effort to develop a methodology that provides a consistent, reliable, and meaningful analysis in response to the Supreme Court's direction on correlating health impacts to a project's emissions.

The Guidance was prepared by conducting regional photochemical modeling, and relies on the USEPA's Benefits Mapping and Analysis Program (BenMAP) to assess

[24] Department of Conservation, California Geological Survey. *Special Report 192: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California*. Published 2006.

[25] Sacramento Metropolitan Air Quality Management District. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*. October 2020.

health impacts from ozone and $PM_{2.5}$. SMAQMD has prepared two tools that are intended for use in analyzing health risks from criteria pollutants. Small projects with criteria pollutant emissions close to or below SMAQMD's adopted thresholds of significance may use the Minor Project Health Effect Screening Tool, while larger projects with emissions between two and six times greater than SMAQMD's adopted thresholds may use the Strategic Area Project Health Screening Tool. Considering the proposed project would result in emissions lower than the SMAQMD's thresholds of significance, the project would qualify for use of the Minor Project Health Effects Screening Tool. It is important to note, however, that the Minor Project Health Effects Screening Tool applies the assumption that all small projects result in emissions of criteria pollutants equal to the SMAQMD thresholds of significance. As shown in Table 4.1-9, the project would result in operational emissions below the SMAQMD thresholds of significance and, thus, the health impacts calculated for the project using in the Minor Project Health Effects Screening Tool are highly conservative. The project's actual health impacts associated with criteria pollutant emissions would be expected to be much less than what is presented herein based on the aforementioned SMAQMD tool. Results from the Minor Project Health Effects Screening Tool are shown in Table 4.1-10 below.

As shown in the table, according to the Minor Project Health Effects Screening Tool, which is based on the highly conservative assumption that the project would emit criteria pollutants at levels equal to the SMAQMD thresholds of significance, the proposed project could result in 1.7 premature deaths per year due to the project's $PM_{2.5}$ emissions and 0.04 premature deaths per year due to the project's ozone emissions. Such numbers represent a very small increase over the background incidence of premature deaths due to $PM_{2.5}$ and ozone concentrations (0.0039 percent and 0.0001 percent, respectively). In addition, according to the Minor Project Health Effects Screening Tool, $PM_{2.5}$ emissions from the proposed project could result in 0.67 asthma-related emergency room visits, and ozone emissions from the proposed project could result in 0.56 asthma-related emergency room visits.

Such numbers represent a minute increase over the background level of asthma-related emergency room visits (0.0037 percent and 0.0062 percent, respectively). As noted above, because the proposed project's emissions would be substantially below the SMAQMD thresholds of significance, the proposed project's actual health impacts associated with criteria pollutant emissions would be much lower than what is presented in Table 4.1-10.

Furthermore, the SMAQMD criteria pollutant thresholds of significance were established with consideration given to the health-based air quality standards established by the NAAQS and CAAQS, and are designed to aid the district in achieving attainment of the NAAQS and CAAQS. The thresholds of significance represent emissions levels that would ensure that project-specific emissions would not inhibit attainment of regional NAAQS and CAAQS and, therefore, would not adversely affect public health.

Table 4.1-10
Health Effects from Proposed Project

Health Endpoint	Age Range[1]	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2] (Mean)	Percent of Background Health Incidences Across the 5-Air-District Region[3] (%)	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
Respiratory $PM_{2.5}$				
Emergency Room Visits, Asthma	0-99	0.67	0.0037	18,419
Hospital Admissions, Asthma	0-64	0.04	0.0024	1,846
Hospital Admissions, All Respiratory	65-99	0.26	0.0013	19,644
Cardiovascular $PM_{2.5}$				
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65-99	0.14	0.0006	24,037
Acute Myocardial Infarction, Nonfatal	18-24	0.00	0.0014	4
Acute Myocardial Infarction, Nonfatal	25-44	0.01	0.0016	308
Acute Myocardial Infarction, Nonfatal	45-54	0.01	0.0018	741
Acute Myocardial Infarction, Nonfatal	55-64	0.02	0.0018	1,239
Acute Myocardial Infarction, Nonfatal	65-99	0.09	0.0018	5,052
Mortality $PM_{2.5}$				
Mortality, All Cause	30-99	1.7	0.0039	44,766
Respiratory Ozone				
Hospital Admissions, All Respiratory	65-99	0.06	0.0003	19,644
Emergency Room Visits, Asthma	0-17	0.20	0.0034	5,859
Emergency Room Visits, Asthma	18-99	0.36	0.0028	12,560
Mortality Ozone				
Mortality, Non-Accidental	0-99	0.04	0.0001	30,386

[1] Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

[2] Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the 5-Air-District Region.

[3] The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

[4] The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.

Source: SMAQMD, Minor Project Health Effects Screening Tool. June 2020 (see Appendix C).

Considering that implementation of the proposed project would not result in emissions of criteria pollutants that would exceed the SMAQMD standards, the proposed project would not inhibit attainment of regional NAAQS and CAAQS and would not result in adverse health impacts related to the emission of criteria pollutants.

The results of the Minor Project Health Effects Screening Tool have been presented for informational purposes only. Overall, because the project would be relatively small compared to the regional growth and development that drives health impacts from criteria pollutants, and the anticipated air quality emissions would fall below all applicable thresholds of significance, potential health impacts related to criteria air pollutants would be less than significant.

Conclusion

Based on the above analysis, the operations of the proposed residential land uses would not be anticipated to result in the production of substantial concentrations of TACs, including DPM, localized CO, or criteria pollutants. In addition, the likelihood of NOA being present on the project site is low. However, construction activities have the potential to expose nearby sensitive receptors to increased concentration of DPM. Therefore, the proposed project could result in the exposure of sensitive receptors to substantial pollutant concentrations, and a ***potentially significant*** impact could result.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.1-3 *Prior to the initiation of any ground-disturbing activities, the project applicant shall ensure that all heavy-duty off-road diesel-powered equipment to be used during the grading phase of construction of the proposed project (including owned, leased, and subcontractor equipment) shall be CARB Tier 4 or cleaner.*

In addition, all off-road equipment working at the construction site must be maintained in proper working condition according to manufacturer's specifications. Idling shall be limited to five minutes or less in accordance with the In-Use Off-Road Diesel Vehicle Regulation as required by CARB. Portable equipment over 50 horsepower must have either a valid SMAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.

The aforementioned requirements shall be noted on improvement plans and submitted for review and approval by the City of Rancho Cordova Community Development Department.

4.1-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Based on the analysis below, the impact is *less than significant*.

Emissions of pollutants have the potential to adversely affect sensitive receptors within the project area. Pollutants of principal concern include emissions leading to odors, emissions that have the potential to cause dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in Impacts 4.1-1 through 4.1-3 above. Therefore, the following discussion focuses on emissions of odors and dust.

Odors

Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact are difficult. Certain land uses such as wastewater treatment and conveyance facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. Operations of the proposed project would involve activities typical to residential developments, and, consequently, would not be anticipated to result in the creation of substantial odors.

Diesel fumes from construction equipment could be found to be objectionable; however, as addressed above, operation of construction equipment would be regulated by SMAQMD rules and regulations, restricted to daytime hours per Section 6.68.090 of the Rancho Cordova Municipal Code, and would occur intermittently throughout the course of a day. For the aforementioned reasons, the project would not result in any noticeable objectionable odors associated with construction.

In addition, SMAQMD Rule 402, Nuisance, prohibits the emission of nuisance air contaminant discharges, including odors, and provides enforcement of odor control. Rule 402 is complaint-based, where if public complaints are sufficient to cause the odor source to be considered a public nuisance, then SMAQMD is required to investigate the identified source, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications to correct the nuisance condition. Thus, although not anticipated, if odor or air quality complaints are made upon development of the proposed project, SMAQMD would be required (per SMAQMD Rule 402) to ensure that such complaints are addressed and mitigated, as necessary.

Dust

With regard to dust, the proposed project is required to comply with all applicable SMAQMD rules and regulations for construction, including, but not limited to, Rule 403 (Fugitive Dust) and Rule 404 (Particulate Matter). Furthermore, all projects are required to implement the SMAQMD's Basic Construction Emission Control Practices (BCECP). Compliance with SMAQMD rules and regulations and BCECP would help to ensure that dust is minimized during project construction. Following project construction, vehicles operating within the project site would be limited to paved areas of the site, which would not have the potential to create substantial dust emissions.

Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

Conclusion

For the aforementioned reasons, project construction and operations would not result in substantial emissions, such as those leading to odors or dust, which could adversely affect a substantial number of people, and a ***less-than-significant*** impact would result.

Mitigation Measure(s)

None required.

4.1-5 Result in the inefficient or wasteful use of energy, or conflict with a State or local plan for renewable energy or energy efficiency. Based on the analysis below, the impact is *less than significant*.

The following discussion addresses the proposed project's potential effects related to energy demand during construction and operations.

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid.

Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only portions of the project site would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site, rather than a single location. In addition, the entire construction phase is anticipated to occur over approximately two years. As a result, the increased energy demand associated with construction would take place for a minimal amount of time compared to the operational lifetime of the project.

All construction equipment and operation thereof would be regulated pursuant to the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. In addition, as a means of reducing emissions, construction vehicles are required to become cleaner through the use of renewable energy resources. The In-Use Off-Road Diesel Vehicle Regulation would therefore help to improve fuel efficiency for equipment used in construction of the proposed project.

Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to further reduce demand on oil and limit emissions associated with construction.

The CARB prepared the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan),[26] which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support the State's climate goals. The examples provided include, but are not limited to, enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The In-Use Off-Road Diesel Vehicle Regulation and idling restriction regulations described above, with which the proposed project must comply, would be consistent with the intention of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Energy use associated with operation of the proposed project would be typical of residential uses, requiring electricity for interior and exterior building lighting, HVAC, electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. As noted above, the project would be required to include a solar photovoltaic system in accordance with the Building Energy Efficiency Standards.

In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by the proposed single-family residences. With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy.

The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the CALGreen Code and the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structure would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. In addition, California has set energy-use reduction goals targeting zero-net-energy use in all new

26 California Air Resources Board. *The 2017 Climate Change Scoping Plan Update.* January 20, 2017.

homes.[27] The CALGreen Code requires that new residential buildings use a combination of energy efficiency and distributed renewable energy generation to meet all annual energy needs. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary.

Conclusion

Based on the context above, construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The geographic context for the cumulative air quality and GHG analysis includes Sacramento County and surrounding areas within the portion of the SVAB that is designated nonattainment for ozone and PM_{10}. Refer to Section 5.3 of Chapter 5, Statutorily Required Sections, for additional detail regarding the cumulative setting evaluated in this EIR.

4.1-6 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Based on the analysis below, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.

The proposed project is within a nonattainment area for ozone and PM_{10}. By nature, air pollution is largely a cumulative impact. The population growth and vehicle usage within the nonattainment area from the proposed project, in combination with other past, present, and reasonably foreseeable projects within Rancho Cordova and surrounding areas, contributes to the region's adverse air quality impacts on a cumulative basis, and could either delay attainment of AAQS or require the adoption of additional controls on existing and future air pollution sources to offset emission

[27] California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.

increases. Thus, the project's emissions of criteria air pollutants would contribute to cumulative regional air quality effects.

As noted in the Standards of Significance section above, SMAQMD directs lead agencies to use the region's existing attainment plans as a basis for analysis of cumulative emissions. A project's interference with such plans may be determined through the use of the SMAQMD's recommended thresholds of significance for ozone precursors, $PM_{2.5}$, and PM_{10}. The SMAQMD's recommended cumulative thresholds are identical to the operational thresholds, both of which are presented in Table 4.1-6.

Accordingly, if the proposed project would result in an increase of ROG, NO_X, PM_{10}, or $PM_{2.5}$ in excess of SMAQMD's operational phase cumulative-level emissions threshold, which are equivalent to SMAQMD's project-level operational emissions thresholds, the project could potentially result in a significant incremental contribution towards cumulative air quality impacts. The proposed project's unmitigated cumulative contribution to regional emissions are equivalent to the project's unmitigated operational emissions, as presented in Table 4.1-9.

As shown in Table 4.1-9, the proposed project's unmitigated operational emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ would all be below the SMAQMD's applicable thresholds of significance. Therefore, implementation of the proposed project would not result in a significant incremental contribution to a cumulative violation of any air quality standards, contribute substantially to an existing or projected air quality violation, or conflict with and/or obstruct implementation of the SMAQMD's air quality planning efforts. As such, the proposed project's incremental contribution to regional air quality impacts would be ***less-than-cumulatively considerable***.

Mitigation Measure(s)

None required.

4.1-7 Generation of GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Based on the analysis below, and with the implementation of mitigation, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.

Buildout of the proposed project would contribute to increases of GHG emissions that are associated with global climate change during construction and operation. As discussed in the Method of Analysis section, the modeling assumed that both on- and off-site construction would occur during implementation of the proposed project.

Construction GHG Emissions

The estimated unmitigated maximum construction-related emissions from the proposed project are presented in Table 4.1-11. As shown in the table, the short-term emissions related to on-site construction would be below the applicable threshold of significance.

As shown in the table, the maximum annual emissions related to implementation of the proposed project are anticipated to occur in 2022. However, even in 2022, the construction-related GHG emissions would be below the threshold of 1,100 $MTCO_2e$/yr, and project construction would not be considered to result in a cumulatively considerable contribution to global climate change.

Table 4.1-11
Unmitigated On-site Construction GHG Emissions

Year	GHG Emissions ($MTCO_2e$/yr)	Threshold of Significance ($MTCO_2e$/yr)	Exceeds Threshold?
2021	468.99	1,100	**NO**
2022	735.89	1,100	**NO**
2023	164.25	1,100	**NO**

Source: CalEEMod, May 2021 (see Appendix C).

Operational GHG Emissions

As noted previously, projects that are below the OPR's *de minimis* VMT criteria would be considered sufficiently small to screen out of further requirements, and would be assumed to result in a less-than-significant impact related to GHG emissions and climate change. The following types of projects would be considered to be below the OPR's *de minimis* VMT criteria:

- Small projects that generate or attract fewer than 110 trips per day;
- Residential and office projects in areas with low VMT (currently below threshold VMT) that incorporate similar features (i.e., density, mix of uses, transit accessibility), including affordable housing infill development; or
- Residential, retail, office, or mixed-use projects within 0.5-mile walking distance of an existing major transit stop or existing stop along a high-quality transit corridor, unless the primary use of the site is auto-oriented (e.g., car dealership, car wash, gas station).

The proposed project would generate greater than 110 daily trips, would not be considered infill development, and is not located within 0.5-mile of a high-quality transit station. As a result, the project would not qualify for screening pursuant to the OPR's *de minimis* VMT criteria, and further analysis of operational GHG emissions is warranted.

The modeling assumptions for the GHG emissions related to operations of the proposed project are discussed in the Method of Analysis section above. The estimated operational GHG emissions at full buildout (2023) are presented in Table 4.1-12.

As noted above, because the project is located within the jurisdiction of SMAQMD, the project is required to implement BMPs 1 and 2. Even with implementation of BMPs 1 and 2, the project would still result in annual emissions over the SMAQMD's threshold of significance, and the proposed project would not meet the OPR's *de minimis* criteria for VMT. Therefore, the project would be subject to BMP 3, which requires that project-related VMT be reduced by 15 percent relative to Sacramento County targets.

Table 4.1-12
Project Operational GHG Emissions ($MTCO_2e$/yr)

Emission Source	GHG Emissions
Area	7.59
Energy[1]	0.00
Mobile	4,298.89
Waste	212.73
Water	43.21
TOTAL ANNUAL GHG EMISSIONS[2]	**4,562.42**

[1] Pursuant to SMAQMD BMP 1, the proposed project would not include any natural gas infrastructure. As such, GHG emissions resulting from the combustion of natural gas have been omitted from this table. Any resulting increase in electricity required to compensate for the lack of ntaural gas would be achieved through renewable resources, and an increase in GHG emissions would not occur.
[2] Rounding may result in small differences in summation.

Source: CalEEMod, May 2021 (see Appendix C).

The Sacramento VMT target is 19.7 VMT per capita, which is 15 percent below the regional average.[28] According to the VMT Evaluation prepared for the proposed project by Kimley-Horn, the project is anticipated to generate 23.3 VMT per capita. As such, the project would not achieve a 15 percent VMT reduction and would not comply with BMP 3.

Conclusion

During construction, the propose project would result in GHG emissions below the applicable threshold of significant. However, during operations, the project would not comply with BMP 3 of the SMAQMD's Guidance. As such, the proposed project would be considered to generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Consequently, the project would result in a cumulatively considerable incremental contribution to impacts related to GHG emissions or climate change and the project's impact would be ***significant***.

Mitigation Measure(s)

Per the SMAQMD's Guidance, when a project does not achieve BMP 3, the applicant may estimate excess GHG emissions from VMT and purchase offsite carbon offsets to indirectly achieve the BMP 3 target. The VMT significance threshold for residential land use types as determined by the City is 19.7 VMT per capita. For the proposed project, the allowable annual VMT would be approximately 9,585,000 (19.7 VMT per resident per day * 1,333 residents * 365 days per year = 9,584,937 VMT per year). As proposed, the project is anticipated to generate approximately 11,336,500 annual VMT. If BMP 3 is to be achieved, the project-related VMT must be reduced by 15.45 percent.

CalEEMod was used to calculate the difference in GHGs that would occur when VMT is reduced by 15.45 percent. As demonstrated in Table 4.1-13, if annual VMT is

[28] Kimley-Horn. *The Preserve,Vehicle Miles Traveled (VMT) Evaluation.* March 5, 2021.

reduced by 15.45 percent, as required in order to achieve BMP 3, then annual mobile GHG emissions would be reduced by 617.30 $MTCO_2e$.

Table 4.1-13
Annual VMT Compared to Mobile-Sourced GHG Emissions

Scenario	Annual VMT	Mobile-Sourced GHGs ($MTCO_2e$/yr)
Unmitigated Project	11,336,500	4,298.89
15.45 Percent Reduction in Annual VMT	9,585,000	3,681.59
CO_2e Offset Purchase Required	**--**	***617.30***
Source: CalEEMod, May 2021.		

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.1-7 *Off-site credits shall be purchased in order to reduce annual greenhouse gas (GHG) emissions by 617.30 $MTCO_2e$ per year. Credit purchases shall adhere to all of the following:*

1. *Off-site credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in California Health and Safety Code Section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations. Such credits must be purchased through one of the following:*

   (i) *A California Air Resources Board (CARB)-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard;*
   (ii) *Any registry approved by CARB to act as a registry under the California Cap and Trade program; or*
   (iii) *Through the California Air Pollution Control Officers Association (CAPCOA) GHG Rx and the Sacramento Metropolitan Air Quality Management District (SMAQMD);*
   (iv) *In the event that no credits meeting these criteria are available within California, the applicant may purchase credits elsewhere so long as: (a) the Governor or the Governor's designee has made the findings set forth in Government Code Section 12894; (b) and these findings have been submitted to the Legislature; and (c) California has accepted the credits as meeting the linkage standards contained in Government Code Section 12894 or its successor statute.*

2. *The applicant must show that the emission reductions from identified projects are real, permanent through the duration of the project (if it is a one-time purchase), enforceable, and are equal to the pollutant type and amount of the project impact being offset. In addition, any off-site purchase shall be subject to review and approval by the City of Rancho Cordova Community Development Department.*

4.2 Biological Resources

4.2. BIOLOGICAL RESOURCES

4.2.1 INTRODUCTION

The Biological Resources chapter of the EIR evaluates the biological resources known to occur or potentially occur within the project site. The Biological Resources chapter describes potential impacts to those resources and identifies measures to eliminate or substantially reduce those impacts to a less-than-significant level. Existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities are discussed for the 98.9-acre development area within the southern portion of the project site and the proposed off-site improvement areas, referred to hereinafter as the "study area" for the purpose of this analysis. The study area does not include the 185.3 acres of open space area within the northern portion of the site which would not be developed as part of the proposed project.

The information contained in the analysis is primarily based on the Biological Resources Assessment prepared for the proposed project by ECORP Consulting, Inc. (ECORP) (see Appendix D).[1] Appendices to the Biological Resources Assessment include, but are not limited to, Bird and Bat Potential Habitat Assessment Surveys,[2] a Special-Status Plant Survey Report,[3] an Aquatic Resources Delineation,[4] and an Arborist Survey Report[5], along with addenda thereto. Further information was sourced from the City of Rancho Cordova General Plan[6] and associated EIR.[7]

4.2.2 EXISTING ENVIRONMENTAL SETTING

The following sections describe the existing environmental setting and biological resources occurring in the proposed project area.

Regional Setting

The study area is located in the Great Valley region, Sacramento Valley subregion of the California Floristic Province. The project region is characterized by agricultural areas, grasslands, wetlands, and valley oaks. The average annual precipitation for the region is 36.9 inches, with the wettest period during November through March, and average daily temperatures range from 47.7 degrees Fahrenheit (˚F) in winter to 73.8˚F in summer.

---

1 ECORP Consulting, Inc. *Biological Resources Assessment, The Preserve Development, Rancho Cordova, California.* June 28, 2019.
ECORP Consulting, Inc. *Addendum to Biological Resources Assessment for The Preserve Development.* July 25, 2019.

2 ECORP Consulting, Inc. *Bird and Bat Potential Habitat Assessment Surveys – The Preserve Development Project, Rancho Cordova, California.* June 21, 2019.

3 ECORP Consulting, Inc. *Special-Status Plant Survey Report, The Preserve Development, Rancho Cordova, California.* June 27, 2019.

4 ECORP Consulting, Inc. *Aquatic Resources Delineation, The Preserve Development, Rancho Cordova, California.* November 26, 2018.
ECORP Consulting, Inc. *Addendum to Aquatic Resources Delineation for The Preserve Development.* June 27, 2019.

5 ECORP Consulting, Inc. *Arborist Survey Report, The Preserve, Rancho Cordova, California.* June 21, 2019.

6 City of Rancho Cordova. *General Plan*. Adopted June 26, 2006.

7 City of Rancho Cordova. *General Plan Environmental Impact Report.* 2006.

As noted in the General Plan EIR, the topography within the City's Planning Area includes gently rolling terrain, such as that found in the eastern Great Central Valley, interrupted by numerous seasonal creeks and streams. Such creeks and streams are largely ephemeral and intermittent, which is typical of areas that experience extremely dry summers and cool, wet winters, as is the case for the project region. The most notable creeks in the City's Planning Area are Morrison Creek, Laguna Creek, Deer Creek, Buffalo Creek, and Carson Creek.

Project Setting

The 108.25-acre study area for the proposed project is depicted in Figure 4.2-1, and includes the 98.9-acre proposed development area, as well as a total of 7.85 acres in which potential off-site improvements are proposed. For the purpose of this chapter, the off-site improvement areas are referred to as follows: the Rio del Oro Offsite, located to the west of the project site; the Raymer Way Offsite, located to the east of the project site; the Morrison Creek Offsite, located to the north of the study area around an existing crossing of Morrison Creek; and the North Douglas Offsites, consisting of road stubs located to the south of the project site. The Raymer Way Offsite has been included in this analysis in anticipation that future improvements to the roadway may be required to support the proposed project. Within the Morrison Creek Offsite, an existing berm to the east of a gravel road crossing Morrison Creek is proposed to be removed to minimize flooding of the adjacent areas during 100-year storms. The North Douglas Offsites are the locations of future roadway connections to the existing North Douglas Project. The Rio del Oro Offsite is located entirely within a disced firebreak on the Rio del Oro property. It should be noted that the Morrison Creek Offsite is located within the boundaries of the 279.3-acre project site, but outside of the 98.9-acre development area.

The study area is situated at an elevation range between approximately 200 and 250 feet above mean sea level (MSL). The study area is characterized by flat to gently rolling terrain and consists primarily of grazed annual grasslands with two single-family residences and other outbuildings. It should be noted that although the structure is not included within the study area, a third single-family residence and associated outbuildings is located within the northwest portion of the project site, in a portion of the project site which would not be developed as part of the proposed project. A private road, sometimes identified as Douglas Road, leads from south of the study area into the two residences. The study area is located within the U.S. Fish and Wildlife Service (USFWS) Mather Core Area. Core Areas are areas prioritized for the conservation and recovery of threatened and endangered vernal pool species.

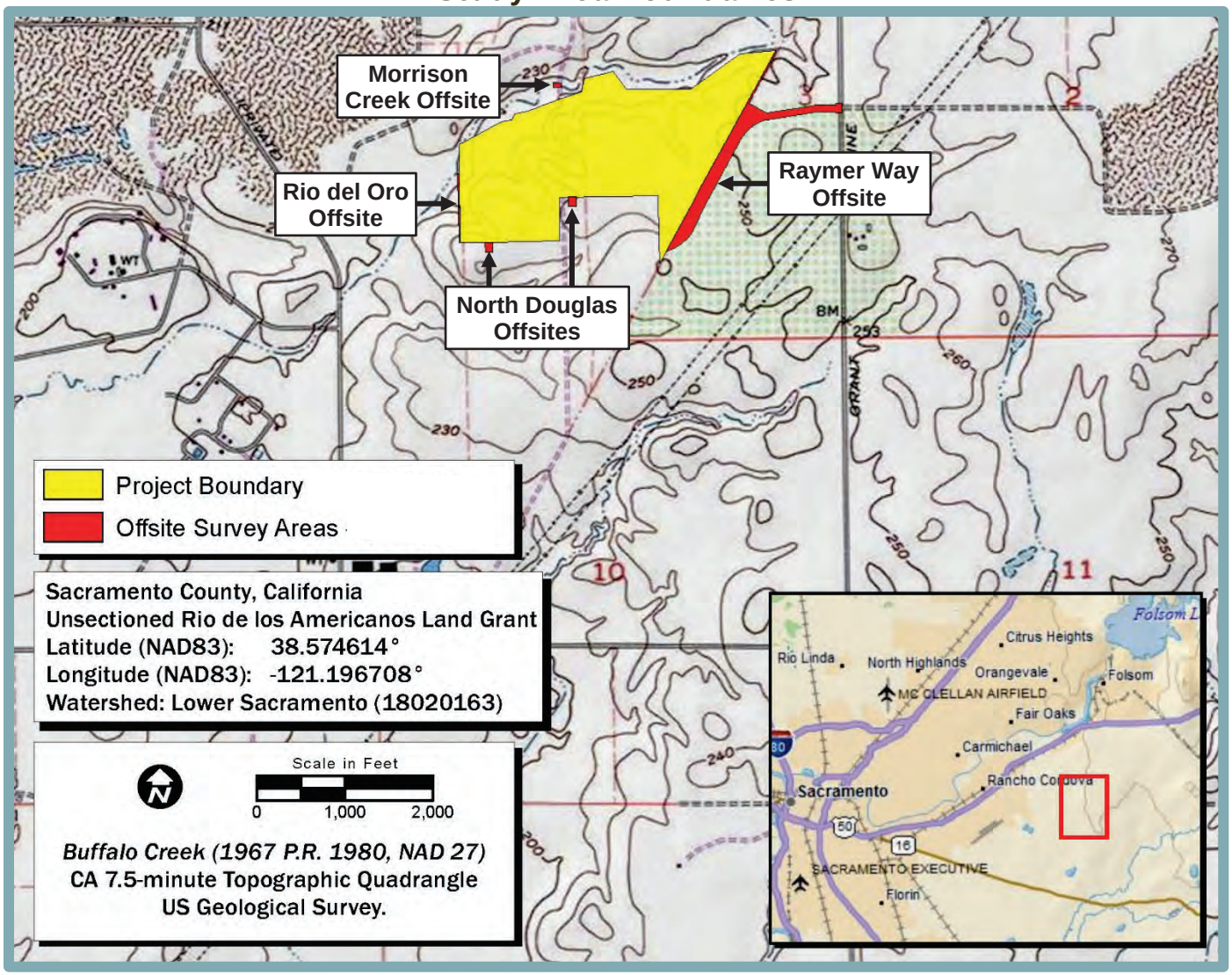
Soils

Per the Biological Resources Assessment, two soil units, or types, have been mapped within the study area: (159) Hicksville gravelly loam, 0 to 2 percent slopes, occasionally flooded; and (193) Red Bluff-Redding complex, 0 to 5 percent slopes. Hicksville and Red Bluff soils are formed in alluvium derived from mixed rock sources. Redding soils are formed in gravelly and cobbly alluvium derived from mixed rock sources.

Land Cover Types

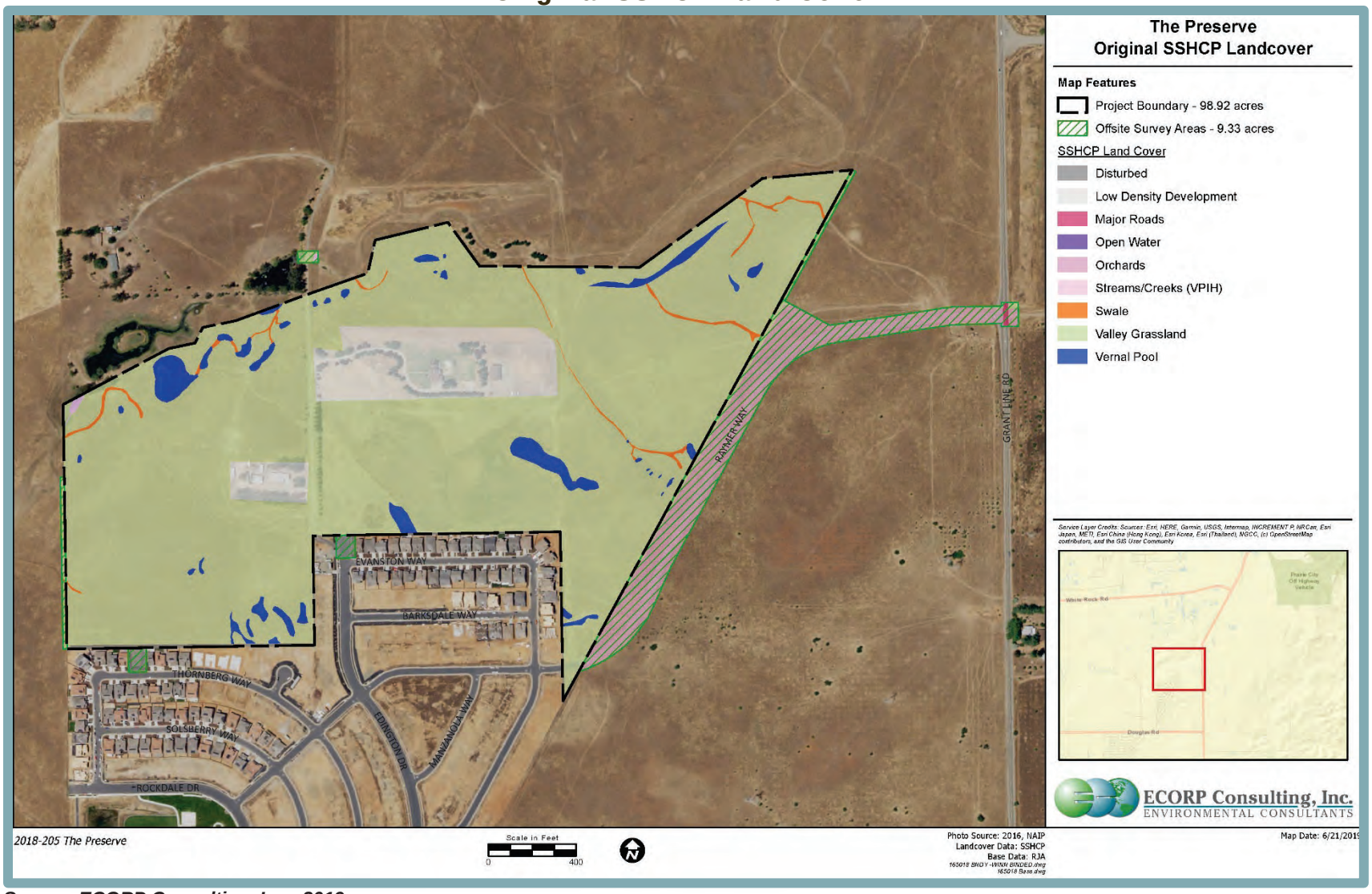
The study area is covered by the South Sacramento Habitat Conservation Plan (SSHCP), discussed in greater detail under the Regulatory Context section below. As part of the Biological Resources Assessment, SSHCP Land Cover data within the study area were reviewed; however, the type and extent of SSHCP Land Cover types was revised to reflect field conditions based on an on-site assessment conducted by ECORP. Baseline SSHCP Land Cover data is presented in Figure 4.2-2, and a revised Land Cover map is provided as Figure 4.2-3.

Figure 4.2-1
Study Area Boundaries



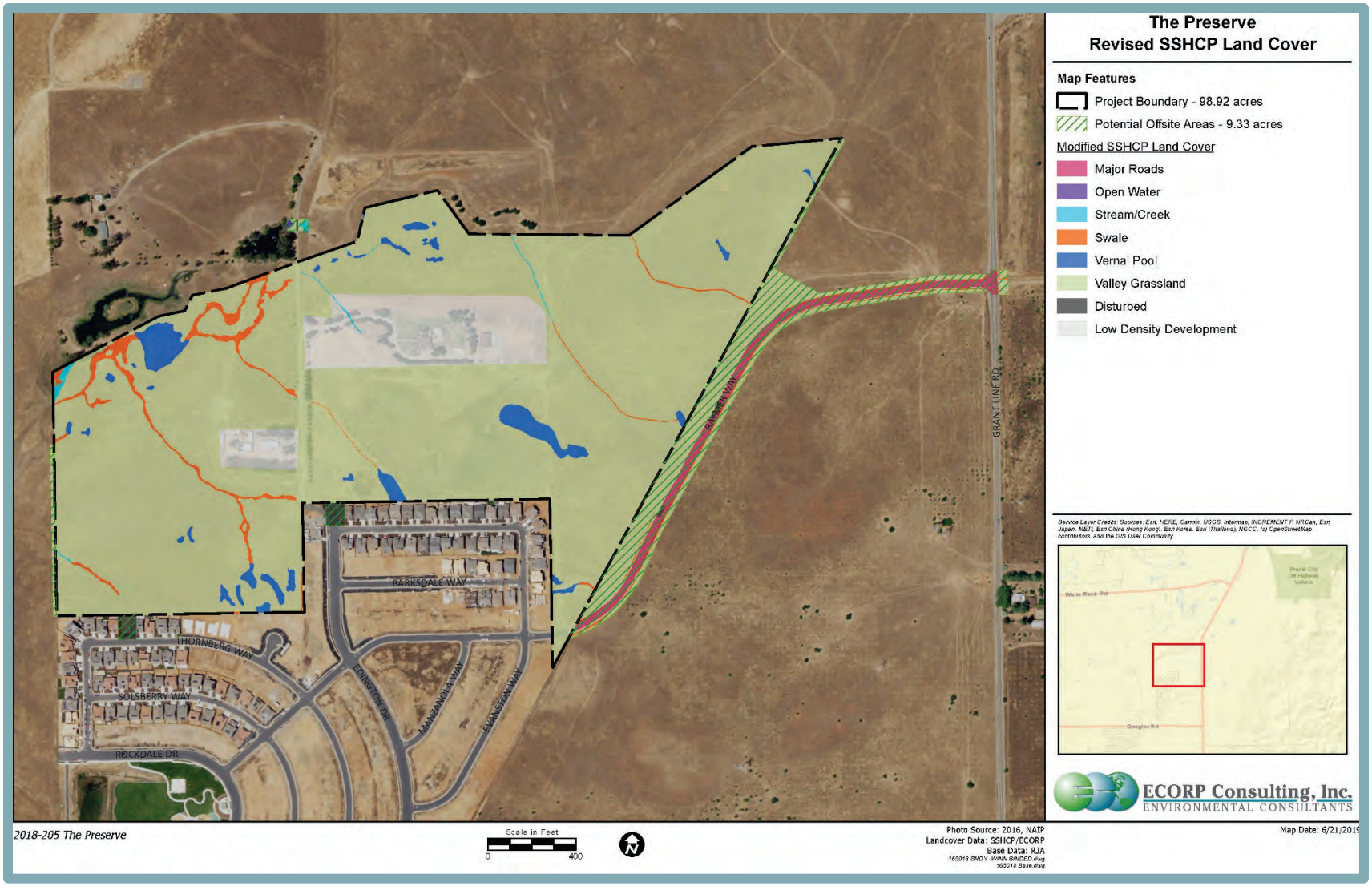
Source: ECORP Consulting, Inc., 2019.

Figure 4.2-2
Original SSHCP Land Cover



Source: ECORP Consulting, Inc., 2019.

Figure 4.2-3
Revised SSHCP Land Cover



Source: ECORP Consulting, Inc., 2019.

The SSHCP Land Cover data indicated that the study area primarily contains the Valley Grassland land cover type, and the reconnaissance visit revised the extent of this land cover type on Figure 4.2-3. In addition, the study area contains Low Density Development and a small amount of Disturbed land cover.

The Valley Grassland land cover type is predominantly characterized by non-native (naturalized) annual grasses. Within the study area, the common plant species found in Valley Grassland are a mixture of nonnative annual grasses, including medusahead grass (*Elymus caput-medusae*), soft brome (*Bromus hordeaceus*), wild oats (*Avena fatua*), and brome fescue (*Festuca bromoides*). Narrow tarplant (*Holocarpha virgata*), a native perennial forb, is also common in this land cover type within the study area.

The Low Density Development land cover type consists of existing homesteads including buildings/structures and horticultural trees. The Disturbed and Major Roads land cover types consists of disturbed areas, and sections of paved and gravel road within the study area. Major Roads land cover type consists of Grant Line Road and Raymer Way within the Raymer Way Offsite.

Aquatic Resources

An Aquatic Resources Delineation was prepared for the study area, the Morrison Offsite, the North Douglas Offsites, and the Rio del Oro Offsite in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. The U.S. Army Corps of Engineers (USACE) verified the delineation on May 9, 2019. It should be noted that a 72.6-acre area that includes the western portion of the project site was previously delineated and verified by the USACE in 2012 as part of the Rio del Oro Project (SPK-1999-00590). As part of the Aquatic Resources Delineation prepared for the proposed project, the portion of the 72.6-acre area that falls within the study area was reverified.

An addendum to the delineation has been prepared for the Raymer Way Offsite, but has not yet been verified by the USACE.

Per the Aquatic Resources Delineation and associated addendum, a total of 4.687 acres of aquatic resources have been mapped on the study area, including 0.215-acre within the Raymer Way Offsite, which has not been verified (see Table 4.2-1). The Rio Del Oro Offsite and North Douglas Offsites do not contain any mapped aquatic resources. The identified features include vernal pool, swale, and stream/creek land cover types.

Table 4.2-1
Aquatic Resources Mapped within the Study Area

Resource Type	Acreage
Vernal Pool	2.613
Swale	1.866
Stream/Creek (Non VPIH)	0.192
Open Water	0.016
Total	**4.687**

Source: ECORP Consulting, Inc., 2019.

A discussion of the aquatic resources found within the study area is presented below, and an aquatic resources delineation map is presented in Figure 4.2-4.

Vernal Pool

Vernal pools are seasonal ephemeral wetlands that fill and dry each year, forming in shallow depressions within Valley Grassland that are underlaid by an impermeable layer (e.g., a hardpan). Water collects in the depressions during the winter rainy season and recedes during the spring.

Soils typically remain moist until late spring before becoming desiccated, and then remain dry throughout the summer. Vernal pools provide habitat for several special-status species, including invertebrates, plants, and amphibians. Vernal pools occur throughout the study area. The features are variously dominated by Great Valley button-celery (*Eryngium castrense*), stalked popcorn flower (*Plagiobothrys stipitatus*), woolly marbles (*Psilocarphus brevissimus*), Mediterranean barley (*Hordeum marinum*), waxy mannagrass (*Glyceria declinata*), hairy hawkbit (*Leontodon saxatilis*), and toad rush (*Juncus bufonius*).

Swale

Swales are shallow ephemeral drainages found in flat to gently rolling Valley Grassland in association with vernal pool complexes, on soils with an impermeable layer. Swales convey runoff as shallow, gently sloping ephemeral wetlands during and shortly after winter rainstorms, but usually maintain soil saturation for longer periods during the growing season. Swales typically have hydric soils and support hydrophytic vegetation, but lack an ordinary high-water mark (OHWM). Roadside ditches that may represent habitat for vernal pool invertebrates may also be classified as swales. Swales serve as habitat for many vernal pool species and provide hydrological connections between vernal pools that allows movement/dispersal of amphibian species, plant seeds, and vernal pool invertebrates (both adults and cysts). Swales occur throughout the study area, and are dominated by Italian ryegrass (*Festuca perennis*), Fitch's spikeweed (*Centromadia fitchii*), and Mediterranean barley. Swale land cover within the Raymer Way Offsite represents roadside ditches.

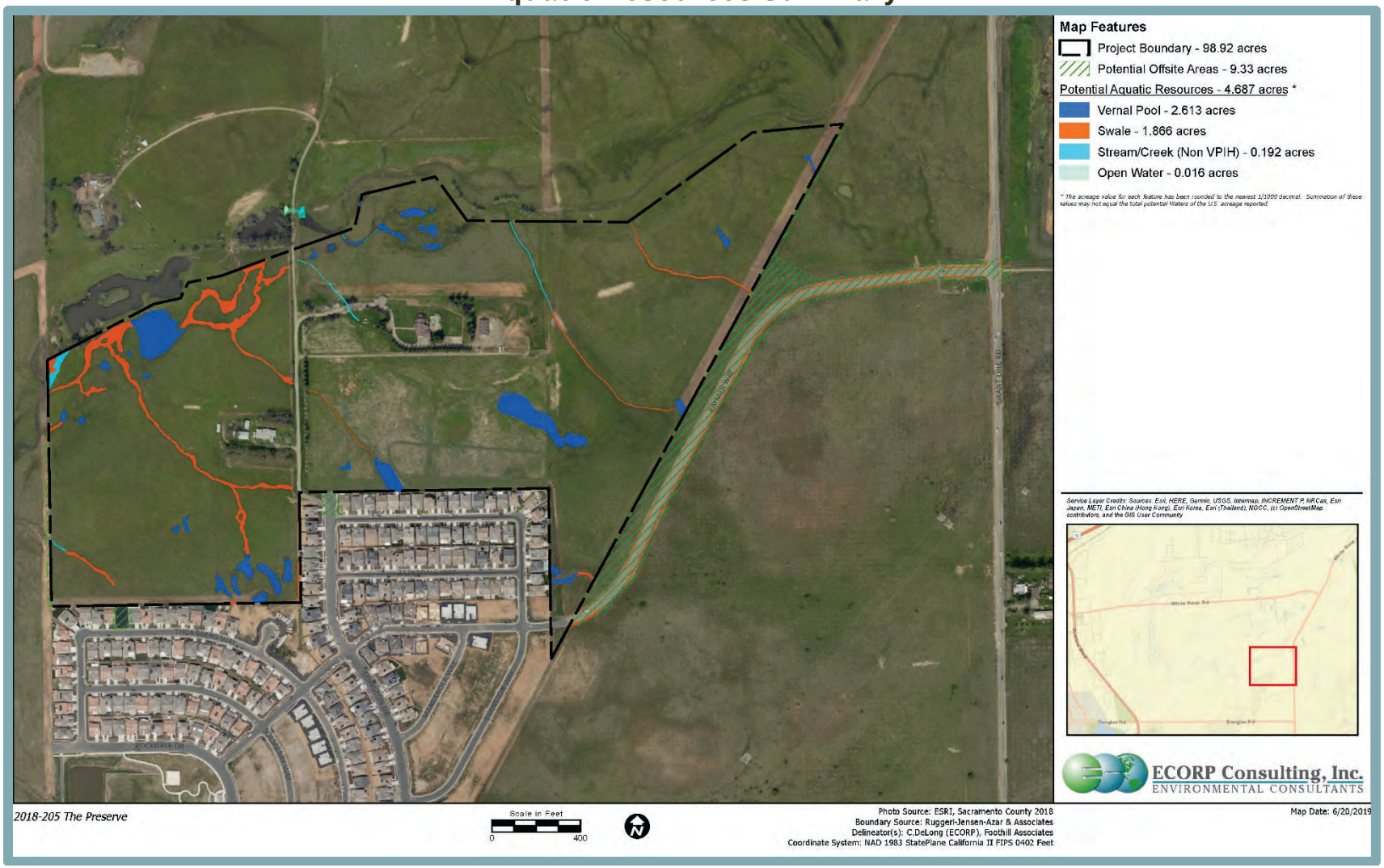
Stream/Creek

The stream/creek land cover type includes intermittent and perennial linear water features such as rivers, streams, creeks, drainages, and roadside and irrigation ditches. These features typically exhibit a bed and bank and an OHWM. Morrison Creek is primarily located outside and to the north of the study area, with the exception of one Offsite located around a crossing of Morrison Creek. Several small headwater tributaries to the creek flow through the study area into Morrison Creek. The stream/creek features do not represent habitat for vernal pool invertebrates, due to the fast-moving flow and ephemeral nature of the features. Stream/creek features occur throughout the study area, flowing northwest to Morrison Creek, and vary from steep, unvegetated features, to gently sloping features that are sparsely vegetated with creeping spikerush (*Eleocharis macrostachya*).

Special-Status Species

Special-status species are species that have been listed as "threatened" or "endangered" under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or are of special concern to federal resource agencies, the State, or private conservation organizations. A species may be considered special-status due to declining populations, vulnerability to habitat change, or restricted distributions. A description of the criteria and laws pertaining to special-status classifications is described below.

Figure 4.2-4
Aquatic Resources Summary



Source: ECORP Consulting, Inc., 2019.

Special-status plant species may meet one or more of the following criteria:

- Plants listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 for listed plants and various notices in the Federal Register [FR] for proposed species);
- Plants that are candidates for possible future listing as threatened or endangered under the FESA (64 FR 205, October 25, 1999; 57533-57547);
- Plants listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5);
- Plants that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA) (CEQA Guidelines, Section 15380); or
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered" in California (Lists 1A, 1B, 2A, 2B, and 3 species in CNPS [2001]).

Special-status wildlife species may meet one or more of the following criteria:

- Wildlife listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service (NMFS) under the FESA (50 CFR 17.11 for listed wildlife and various notices in the Federal Register for proposed species);
- Wildlife listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5);
- Wildlife that meet the definitions of rare or endangered species under CEQA (CEQA Guidelines, Section 15380);
- Wildlife identified as Medium or High priority species by the Western Bat Working Group (WBWG);
- Wildlife species of special concern to the California Department of Fish and Wildlife (CDFW) (Remsen [1978] for birds; Williams [1986] for mammals); and/or
- Wildlife species that are fully protected in California (California Fish and Game Code [FGC], Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Several species of plants and animals within the State of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the State's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described below, State and federal laws have provided the CDFW and the USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to the State. A number of native plants and animals have been formally designated as threatened or endangered under State and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. In addition, the CNPS has developed a set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as "special-status species."

As part of the Biological Resources Assessment, SSHCP Modeled Species Habitat data were used to determine which SSHCP Covered Species are considered to have the potential to occur within the study area. Surveys for potential Covered Species habitat were conducted by ECORP consistent with SSHCP standards, discussed in greater detail under the Method of Analysis section below. In addition, surveys for special-status plants were conducted in spring of 2019. In order to determine whether any special-status species other than SSHCP Covered Species have the potential to occur within the study area, the following resources were queried:

- CDFW California Natural Diversity Database (CNDDB) record search for the "Buffalo Creek, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles;
- USFWS Information, Planning, and Consultation System Resource Report List for the study area;
- CNPS' electronic *Inventory of Rare and Endangered Plants of California* was queried for the "Buffalo Creek, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles.

Based on SSHCP modeled species habitat, species occurrence information from the literature review, and field assessments, a list of special-status plant and animal species that have been documented within the project region was generated. The full list of special-status species is included in Appendix E to the Biological Resources Assessment (Appendix D to this EIR). Each of the species was evaluated based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the study area based on documented occurrences within the CNDDB, SSHCP, or other literature.
- **Potential to Occur** - Habitat (including soil and elevation requirements) for the species occurs within the study area based on site assessment, literature research, or SSHCP Modeled Species Habitat data.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, and/or the species is not known to occur within the vicinity of the study area based on CNDDB records and other available documentation. This designation is only used for species that are not SSHCP Covered Species.
- **Absent** - Suitable habitat (including soil and elevation requirements) and/or the species is not known to occur within the vicinity of the study area based on CNDDB records and other documentation, or SSHCP Modeled Species Habitat data does not indicate that habitat for the species occurs within the study area.

Based on SSHCP Modeled Species Habitat data, the study area contains habitat for 21 of the 28 SSHCP Covered Species. Of the 21 Covered Species, one species was considered to be present based on field observations made during habitat surveys required by the SSHCP, and one species was considered present based on CNDDB data. Seven of the 28 SSHCP Covered Species were determined to be absent from the study area because SSHCP Modeled Species Habitat does not exist within the study area.

In addition, based on the literature sources listed previously, seven additional special-status species, that are not SSHCP Covered Species, were considered to have potential to occur within the study area. Each of the 28 species that were considered to be present or have the potential to occur, according to the definitions listed above, are listed in Table 4.2-2, and descriptions are provided in the following sections. Species that were considered to be absent from the study area due to the lack of suitable habitat, or because the known distribution of the species does not include the study area vicinity, are not discussed further in this chapter.

Table 4.2-2
Special-Status Species with Potential to Occur within the Study Area

Common Name *(Scientific Name)*	Status			Habitat Requirements	Survey Period	Potential for Occurrence
	ESA	CESA	Other			
Plants						
Stinkbells *(Fritillaria agrestis)*	-	-	4.2	Clay and sometimes serpentinite soils in chaparral, cismontane woodland, Pinyon and juniper woodland, and Valley and foothill grassland (33' to 5,102').	March to June	**Absent within Project**. Special-status plant surveys did not detect the species. **Potential to Occur** within off-site along Raymer Way; Valley grassland represents suitable habitat.
Boggs Lake hedge–hyssop *(Gratiola heterosepala)*	–	–	1B.2, SSHCP Covered Species	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005a) (98’ to 751’).	April to August	**Absent**. Special-status plant surveys did not detect the species. Field surveys have determined that habitat is not present for the species within the unsurveyed Raymer Way Offsite.
Ahart’s dwarf rush (*Juncus leiospermus var. ahartii*)	–	–	1B.2, SSHCP Covered Species	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005a) (98’ to 751’).	March to May	**Absent within Project**. Special-status plant surveys did not detect the species. **Potential to Occur** within off-site along Raymer Way; small amounts of SSHCP

(Continued on next page)

Table 4.2-2
Special-Status Species with Potential to Occur within the Study Area

Common Name *(Scientific Name)*	Status			Habitat Requirements	Survey Period	Potential for Occurrence
	ESA	CESA	Other			
						Modeled Species Habitat present within unsurveyed Raymer Way Offsite.
Legenere *(Legenere limosa)*	–	–	1B.1, SSHCP Covered Species	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005b) (3' to 2,887').	April to June	**Absent**. Special-status plant surveys did not detect the species. Field surveys have determined that habitat for the species is not present within the unsurveyed Raymer Way Offsite.
Slender Orcutt grass *(Orcuttia tenuis)*	FT	CE	1B.1, SSHCP Covered Species	Vernal pools, often gravelly (115' to5,774').	May to September	**Absent**. Special-status plant surveys did not detect the species. Field surveys have determined that habitat for the species is not present within the unsurveyed Raymer Way Offsite.
Sacramento Orcutt grass *(Orcuttia viscida)*	FE	CE	1B.1, SSHCP Covered Species	Vernal pools (98' to 328').	April to July	**Absent**. Special-status plant surveys did not detect the species. Field surveys have determined that habitat for the species is not present within

(Continued on next page)

Table 4.2-2
Special-Status Species with Potential to Occur within the Study Area

Common Name *(Scientific Name)*	Status			Habitat Requirements	Survey Period	Potential for Occurrence
	ESA	CESA	Other			
						the unsurveyed Raymer Way Offsite.
Sanford's arrowhead *(Sagittaria sanfordii)*	–	–	1B.2, SSHCP Covered Species	Shallow marshes and freshwater swamps (0' to 2,133').	May to October	**Absent**. Special-status plant surveys did not detect the species. Field surveys have determined that habitat for the species is not present within the unsurveyed Raymer Way Offsite.
Invertebrates						
Conservancy fairy shrimp (*Branchinecta conservatio)*	FE	-	-	Vernal pools/wetlands.	November to April	**Potential to Occur** within vernal pool habitat.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	SSHCP Covered Species	Vernal pools/wetlands.	November to April	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Midvalley fairy shrimp *(Branchinecta mesovallensis)*	-	-	CNDDB, SSHCP Covered Species	Vernal pools/wetlands.	November to April	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Ricksecker's water scavenger beetle (*Hydochara rickseckeri)*	-	-	SSHCP Covered Species	Vernal pools/wetlands.	November to April	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	-	SSHCP Covered Species	Vernal pools/wetlands.	November to April	**Present**. SSHCP Modeled Species Habitat present and

(Continued on next page)

Table 4.2-2
Special-Status Species with Potential to Occur within the Study Area

Common Name (*Scientific Name*)	Status			Habitat Requirements	Survey Period	Potential for Occurrence
	ESA	CESA	Other			
						CNDDB occurrence overlaps the site.
Amphibians						
Western spadefoot (*Spea hammondii*)	-	-	SSC, SSHCP Covered Species	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March to May	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Reptiles						
Western pond turtle (*Actinemys marmorata*)	-	-	SSC, SSHCP Covered Species	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April to September	**Potential to Occur**. No SSHCP Modeled Species Habitat present; however, ponded areas in Morrison Creek represent potential habitat.
Birds						
Burrowing owl *(Athene cunicularia)*	-	-	BCC, SSC, SSHCP Covered Species	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g. prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February to August	**Present**. SSHCP Modeled Species Habitat present, and burrowing owls were observed during survey conducted per SSHCP AMM WBO-1.
Ferruginous hawk (*Buteo regalis*)	-	-	BCC, CDFW WL, SSHCP Covered Species	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September to March (wintering)	**Potential to Occur**. SSHCP Modeled Species Habitat present.

(Continued on next page)

Table 4.2-2
Special-Status Species with Potential to Occur within the Study Area

Common Name (*Scientific Name*)	Status			Habitat Requirements	Survey Period	Potential for Occurrence
	ESA	CESA	Other			
Golden eagle (*Aquila chrysaetos*)	-	-	BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g. windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter.	Nest (February to August); winter CV (October to February)	**Potential to Occur**. Winter foraging habitat present.
Grasshopper sparrow (*Ammodramus savannarum*)	-	-	SSC	In California, breeding range includes most coastal counties south to Baja California; western Sacramento Valley and western edge of Sierra Nevada region. Nests in moderately open grasslands and prairies with patchy bare ground. Avoids grasslands with extensive shrub cover; more likely to occupy large tracts of habitat than small fragments; removal of grass cover by grazing often detrimental.	May to August	**Potential to Occur**. Nesting habitat present.
Loggerhead shrike (*Lanius ludovicianus*)	-	-	BCC, SSC, SSHCP Covered Species	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats.	March to July	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Merlin *(Falco columbarius)*	-	-	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes	September to April (wintering in the Central Valley); does not breed in California	**Potential to Occur**. Winter foraging habitat present.

(Continued on next page)

Table 4.2-2
Special-Status Species with Potential to Occur within the Study Area

Common Name (*Scientific Name*)	Status			Habitat Requirements	Survey Period	Potential for Occurrence
	ESA	CESA	Other			
				wide variety, open forests, grasslands, tidal flats, plains, and urban settings.		
Northern harrier (*Circus hudsonius*)	-	-	SSC, SSHCP Covered Species	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April to September	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Swainson's hawk (*Buteo swainsoni*)	-	CT	BCC, SSHCP Covered Species	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures.	March to August	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Tricolored blackbird (*Agelaius tricolor*)	-	CT	BCC, SSC, SSHCP Covered Species	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San Diego Counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen Counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March to August	**Present**. SSHCP Modeled Species Habitat present, evidence of past nesting observed during survey per SSHCP AMM TCB- 1; however, the species is nomadic and may not be present every year.
White-tailed kite (*Elanus leucurus*)	-	-	CFP, SSHCP Covered Species	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March to August	**Potential to Occur**. SSHCP Modeled Species Habitat present.
Yellow-billed magpie (*Pica nuttallii*)	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles	April to June	**Potential to Occur**. Nesting habitat present.

(Continued on next page)

Table 4.2-2
Special-Status Species with Potential to Occur within the Study Area

Common Name *(Scientific Name)*	Status			Habitat Requirements	Survey Period	Potential for Occurrence
	ESA	CESA	Other			
				County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.		
Mammals						
Pallid bat *(Antrozous pallidus)*	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (Western Bat Working Group [WBWG] 2018).	April to September	**Potential to Occur**. Structures onsite represent potential hibernacula.
Western red bat (*Lasiurus blossevillii*)	-	-	SSC, SSHCP Covered Species	Roosts in foliage of trees or shrubs; day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2017)	April to September	**Potential to Occur**. SSHCP Modeled Species Habitat present; potential hibernacula habitat identified during survey per SSHCP AMM BAT-1.
American badger *(Taxidea taxus)*	-	-	SSC, SSHCP Covered Species	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	**Potential to Occur**. SSHCP Modeled Species Habitat present.

Notes: **ESA** – Endangered Species Act; **CESA** California Endangered Species Act; **FE** – Federally Endangered; **FT** – Federally Threatened; **BCC** – USFWS Bird of Conservation Concern; **CFP** – CDFW Fully Protected Species; **CE** – CDFW Endangered; **CT** – CDFW Threatened; **SSC** – CDFW Species of Special Concern; **SSHCP** – South Sacramento Habitat Conservation Plan-covered species; **1B –** California Rare Plant Ranks (CRPR)/Rare or Endangered in California or elsewhere; **4** – CRPR/Plants of Limited Distribution – A Watch List; **0.1** – Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); and **0.2** – Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Source: ECORP Consulting, Inc., 2019.

Special-Status Plants

The following sections provide a discussion of special-status plant species with potential to occur within the study area.

Stinkbells

Stinkbells (*Fritillaria agrestis*) is not listed pursuant to either the FESA or CESA, but is designated as a CRPR 4.2 species. The species is a perennial bulbiferous herb that occurs in clay, sometimes serpentine areas in chaparral, cismontane woodland, pinyon, and juniper woodland, and Valley and foothill grassland. Stinkbells bloom from March to June and the species is known to occur at elevations ranging from 33 to 5,102 feet above MSL. The current range of the species in California includes Alameda, Contra Costa, Fresno, Kern, Mendocino, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo, Stanislaus, Tuolumne, Ventura, and Yuba counties, and is considered to be extirpated from Santa Cruz and San Mateo counties.

Documented CNDDB occurrences of the species within five miles of the study area do not exist. Stinkbells was not detected during the special-status plant surveys conducted in spring and summer 2019. However, the grassland within the unsurveyed Raymer Way Offsite provides suitable habitat for this species. Thus, stinkbells has potential to occur within the Raymer Way Offsite.

Ahart's Dwarf Rush

Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) is not listed pursuant to either the FESA or CESA, but is designated as a CRPR 1B.2 species. The species is an herbaceous annual that occurs in mesic areas in Valley and foothill grasslands. The species also appears to have an affinity for slight disturbance, given that the species has been found on farmed fields and gopher turnings. Ahart's dwarf rush blooms from March through May and is known to occur at elevations ranging from 98 to 751 feet above MSL. Ahart's dwarf rush is endemic to California; the current range of this species includes Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties.

Two documented CNDDB occurrences of the species exist within five miles of the study area. Ahart's dwarf rush is a SSHCP Covered Species, and the aquatic features and grassland within the study area provide suitable habitat for the species according to SSHCP Modeled Species Habitat. While Ahart's dwarf rush was not detected during the special-status plant surveys conducted in spring and summer 2019, the species has a potential to occur within the unsurveyed Raymer Way Offsite.

Special-Status Wildlife

The following sections provide a discussion of special-status wildlife species with potential to occur within the study area.

Conservancy Fairy Shrimp

The conservancy fairy shrimp (*Branchinecta conservatio*) is listed as endangered pursuant to the FESA. Critical Habitat units were designated for the species in the following counties: Butte, Colusa, Mariposa, Merced, Solano, Stanislaus, Tehama, and Ventura. The species is usually associated with cool-water pools, which are low to moderate in dissolved solids. The species appears to be most commonly associated with relatively large, turbid vernal pools. Conservancy fairy shrimp have been netted from November to late April, at water temperatures ranging from

as low as 41°F early in the ponding cycle, to as high as 75°F near the end of the season. Hatching generally occurs in the week following inundation of the pool at temperatures around 50°F.

Maturation takes at least 19 days, if pool temperatures slowly increase to at least 68°F; however, the average time to maturity is 49 days. The distribution of conservancy fairy shrimp is limited to the northern two-thirds of the Central Valley at an elevation range of approximately 16 to 475 feet above MSL. Populations of the species have been documented at eight widely separated locations, which include Vina Plains, Butte and Tehama counties; Sacramento National Wildlife Refuge, Glenn County; Yolo Bypass Wildlife Area, Yolo County; Jepson Prairie, Solano County; Mapes Ranch, Stanislaus County; University of California Merced area, Merced County; Grasslands Ecological Area, Merced County; and Los Padres National Forest, Ventura County.

Documented CNDDB occurrences of conservancy fairy shrimp within five miles of the study area do not exist. However, the vernal pools within the study area provide suitable habitat for the species. Thus, conservancy fairy shrimp has potential to occur within the study area.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened in accordance with the FESA. Vernal pool fairy shrimp may occur in seasonal ponds, vernal pools, and swales during the wet season, which generally occurs from December through May. The species can be found in a variety of pool sizes, ranging from less than 0.001-acre to over 24.5 acres. The shrimp hatch from cysts when colder water (50°F or less) fills the pool and mature in as few as 18 days, under optimal conditions. At maturity, mating takes place and cysts are dropped. Vernal pool fairy shrimp occur in disjunct patches dispersed across California's Central Valley from Shasta County to Tulare County, the central and southern Coast Ranges from northern Solano County to Ventura County, and three areas in Riverside County.

A total of 16 documented CNDDB occurrences of the species exist within five miles of the study area. Vernal pool fairy shrimp is a SSHCP Covered Species, and the vernal pools within the study area provide suitable habitat for this species according to SSHCP Modeled Species Habitat. Thus, vernal pool fairy shrimp has potential to occur within the study area.

Midvalley Fairy Shrimp

The midvalley fairy shrimp (*Branchinecta mesovallensis*) is not listed pursuant to either the CESA or FESA, but occurrences of the species are tracked by the CNDDB. The midvalley fairy shrimp was formally described as a species in 2000. The species typically occurs in small, shallow vernal pools, swales, and various artificial ephemeral wetland types (e.g., roadside puddles, scrapes and ditches, and railroad toe-drain pools). Midvalley fairy shrimp have been collected from late January to early April. The cysts typically hatch in the first week of pool filling if water temperatures are near 50°F. The species has been documented in several California counties including: Sacramento, Solano, Contra Costa, San Joaquin, Madera, Merced, Fresno, and Yolo.

Two documented CNDDB occurrences of the species exist within five miles of the study area. Midvalley fairy shrimp is a SSHCP Covered Species, and the vernal pools and grassland within the study area provide suitable habitat for this species according to SSHCP Modeled Species Habitat. Midvalley fairy shrimp has potential to occur within the study area.

Ricksecker's Water Scavenger Beetle

Ricksecker's water scavenger beetle (*Hydrochara ricksecker*i) is not listed and protected under either CESA or FESA but is currently tracked by CDFW in the CNDDB. Ricksecker's water scavenger beetles inhabit ponds in the Coast Range and Central Valley. One documented CNDDB occurrence of the species exists within five miles of the study area. Ricksecker's water scavenger beetle is a SSHCP Covered Species, and the vernal pools within the study area provide suitable habitat for this species according to SSHCP Modeled Species Habitat. Thus, Ricksecker's water scavenger beetle has potential to occur within the study area.

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp (*Lepidurus packardi*) is listed as endangered pursuant to the FESA. The species inhabits vernal pools containing clear to highly turbid water, ranging in size from 0.001 to 89.0 acres (USFWS 1994). Vernal pool tadpole shrimp are distinguished from other vernal pool branchiopods by a large, shield like carapace that covers the anterior half of their body (USFWS 2003). Cysts hatch during the wet season and the shrimp reach maturity in a few weeks. The species matures slowly and is long lived, relative to other species. Vernal pool tadpole shrimp will continue to grow as long as the pools the individuals occur in remain inundated, and in some instances the species can survive for six months or longer (USFWS 2003). The geographic range of vernal pool tadpole shrimp extends from Shasta County to northern Tulare County in California's Central Valley, and in the central coast range from Solano County to Alameda County (USFWS 2003). One documented CNDDB occurrence polygon exists for this species which overlaps the study area, and 32 other documented occurrences of the species are located within five miles of the study area (CDFW 2018a). Vernal pool tadpole shrimp is a SSHCP Covered Species, and the vernal pools and grassland within the study area provide suitable habitat for the species according to SSHCP Modeled Species Habitat. Vernal pool tadpole shrimp is considered present within the study area.

Western Spadefoot

The western spadefoot (*Spea hammondii*) is not listed pursuant to either the CESA or FESA; however, the species is designated as a CDFW species of special concern. Necessary habitat components of the western spadefoot include loose, friable soils in which to burrow in upland habitats and breeding ponds. Breeding sites include temporary rain pools, such as vernal pools and seasonal wetlands, or pools within portions of intermittent drainages. The western spadefoot spends most of the species' adult life within underground burrows or other suitable refugia, such as rodent burrows. In California, western spadefoot is known to occur from the Redding area, Shasta County southward to northwestern Baja California, at elevations below 4,475 feet.

Three documented CNDDB occurrences of the species exist within five miles of the study area. Western spadefoot is a SSHCP Covered Species, and the grassland and aquatic areas within the study area provide suitable foraging habitat for the species according to SSHCP Modeled Species Habitat. Thus, western spadefoot has potential to occur within the study area.

Western Pond Turtle

The western pond turtle (*Actinemys marmorata*) is not listed pursuant to either the CESA or FESA; however, the species is designated as a CDFW species of special concern. Western pond turtles occur in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow-moving streams. The species is primarily aquatic; however, individuals typically leave aquatic habitats in the fall to reproduce and to overwinter. Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops is optimal for basking and thermoregulation.

Although adults are habitat generalists, hatchlings and juveniles and hatchlings require shallow edgewater with relatively dense submergent or short emergent vegetation in which to forage.

Western pond turtles are typically active between March and November. Mating generally occurs during late April and early May and eggs are deposited between late April and early August. Eggs are deposited within excavated nests in upland areas, with substrates that typically have high clay or silt fractions. The majority of nesting sites are located within 650 feet of the aquatic sites; however, nests have been documented as far as 1,310 feet from the aquatic habitat.

Four documented CNDDB occurrences of western pond turtle exist within five miles of the study area. Western pond turtle is a SSHCP Covered Species. While SSHCP Modeled Species Habitat is not present within the study area, the ponded areas along Morrison Creek may provide suitable aquatic habitat and the adjacent grasslands provide suitable upland habitat for the species. Western pond turtle is considered to have potential to occur within the study area.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is not listed pursuant to either the CESA or FESA; however, the species is designated as a bird of conservation concern by the USFWS and a species of special concern by the CDFW. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. The species can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds. Burrowing owl typically uses burrows created by fossorial mammals, most notably the California ground squirrel (*Spermophilus beecheyi*), but may also use man-made structures such as cement culverts or pipes; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. The breeding season typically occurs between February 1 and August 31.

Seven documented CNDDB occurrences of burrowing owl exist within five miles of the study area. Western burrowing owl is a SSHCP Covered Species. The grassland within the study area provides suitable nesting and foraging habitat for this species and the aquatic features provide suitable foraging habitat, according to SSHCP Modeled Species Habitat. Burrowing owls and occupied burrows were observed along the southeastern boundary of the site during a preliminary survey of potential habitat. Burrowing owl is considered present within the study area.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species pursuant to the CESA. The species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta. In California, the nesting season for Swainson's hawk ranges from mid-March to late August. Swainson's hawks nest within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel (*Spermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanopulus* species).

Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, disking, and irrigating. The removal of vegetative cover by such farming activities results in more readily available prey items for the species.

Seven documented CNDDB occurrences of the species occur within five miles of the study area. Swainson's hawk is a SSHCP Covered Species, and the grassland and aquatic areas within the study area provide suitable foraging habitat for this species according to SSHCP Modeled Species Habitat. In addition, a preliminary survey of potential habitat found several trees within the Survey Area and survey buffers that represent potential nesting habitat. Thus, Swainson's hawk has potential to occur within the study area.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is listed as threatened pursuant to the CESA. In addition, the species is currently considered a USFWS bird of conservation concern and a CDFW species of special concern. Tricolored blackbird is a colonial nesting species distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California. Tricolored blackbird nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. Tricolored blackbird nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, densely vegetated agricultural and idle fields (e.g., wheat, triticale, safflower, fava bean fields, thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation. The species feeds mainly on grasshoppers during the breeding season, but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields. The nesting season is generally from March through August.

A total of 10 documented CNDDB occurrences of the species exist within five miles of the study area. Tricolored blackbird is a SSHCP Covered Species. According to SSHCP Modeled Species Habitat, the grassland within the study area provides suitable nesting and foraging habitat for the species, and the aquatic features provide suitable foraging habitat. In addition, a preliminary survey of potential habitat documented evidence of previous tricolored blackbird nesting within patches of bull thistle (*Cirsium vulgare*) in the central portion of the project site, and a small area of riparian habitat along Morrison Creek was also determined to represent potential nesting habitat. However, tricolored blackbirds were not observed nesting during a site visit on June 13, 2019. The species is nomadic and may or may not return to the study area. Thus, tricolored blackbirds are considered to be present within the study area.

Other Raptors and Nesting Birds

Various other raptors and nesting birds that are protected by the federal Migratory Bird Treaty Act (MBTA) are described below.

Ferruginous Hawk

Ferruginous hawk (*Buteo regalis*) is not listed pursuant to either the CESA or FESA. However, ferruginous hawk is a CDFW "watch list" species and USFWS bird of conservation concern. The species typically occurs in open environments and nests from Oregon to Canada, though nesting has been documented in Lassen County, California. For the remainder of the state, including the Central Valley, ferruginous hawk occurrences are restricted to the non-breeding season (approximately September through March). Winter foraging habitat includes a variety of open communities including annual

grasslands, agricultural areas, deserts, and savannahs. Ferruginous hawks do not nest in the project region but may occasionally forage within grassland and other open vegetation communities within the study area during winter or migration.

Documented CNDDB occurrences of the species within five miles of the study area do not exist. However, ferruginous hawk is a SSHCP Covered Species, and the grassland and aquatic areas within the study area provide suitable foraging habitat for this species according to SSHCP Modeled Species Habitat. Thus, ferruginous hawk has potential to occur within the study area.

Golden Eagle

Golden eagle (*Aquila chrysaetos*) is not listed pursuant to either the CESA or FESA, but is a USFWS Bird of Conservation Concern and is Fully Protected per CDFW. Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where the species can be found during winter. The study area provides potential winter foraging habitat for the species; thus, golden eagle has potential to occur within the study area.

Grasshopper Sparrow

The grasshopper sparrow (*Ammodramus savannarum*) is not listed pursuant to either the CESA or FESA, but is designated as a species of special concern by CDFW. The grasshopper sparrow is an uncommon and local, summer resident and breeder along the western edge of the Sierra Nevada and most coastal counties south to Baja California. The species generally inhabits moderately open grasslands and prairies with patchy bare ground and scattered shrubs. Grasshopper sparrows are more likely to occupy large tracts of habitat than small fragments. Breeding generally occurs from early May through August.

Documented CNDDB occurrences of grasshopper sparrow within five miles of the study area do not exist. However, the grassland within the study area provides suitable nesting habitat for the species. Thus, grasshopper sparrow has potential to occur within the study area.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is not listed pursuant to either the CESA or FESA, but is considered a bird of conservation concern by the USFWS and a species of special concern by the CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts. Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands. The nesting season extends from March through July.

Documented CNDDB occurrences of the species within five miles of the study area do not exist. However, loggerhead shrike is a SSHCP Covered Species. The grassland within the study area provides suitable nesting and foraging habitat for this species and the aquatic features provide suitable foraging habitat according to SSHCP Modeled Species Habitat. Thus, loggerhead shrike has potential to occur within the study area.

Merlin

The merlin (*Falco columbarius*) is not listed pursuant to either the CESA or FESA, but is a CDFW "watch list" species and currently tracked in the CNDDB. While not considered a special-status species, the merlin is protected under the MBTA. The merlin breeds in Canada and Alaska and occurs in California as a migrant and during the non-breeding season (September through April). Foraging habitat in winter includes open forests, grasslands, and tidal flats. Merlin do not nest in the region but may occasionally forage within grassland and woodland communities on-site during winter or migration.

One documented CNDDB occurrence of the species exists within five miles of the study area. In addition, the grassland within the study area provides suitable wintering habitat for the species. Thus, merlin has potential to occur within the study area.

Northern Harrier

The northern harrier (*Circus cyaneus*) is not listed pursuant to either the CESA or FESA; however, the species is considered to be a species of special concern by the CDFW. Northern harrier is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. The northern harrier is a ground nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah communities usually in areas with dense vegetation. Foraging occurs within a variety of open environments such as marshes, agricultural fields, and grasslands. Nesting occurs during April through September.

Documented CNDDB occurrences of the species within five miles of the study area do not exist. However, northern harrier is a SSHCP Covered Species. The grassland within the study area provides suitable nesting and foraging habitat for the species and the aquatic features provide suitable foraging habitat according to SSHCP Modeled Species Habitat. Thus, northern harrier has potential to occur within the study area.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the CESA or FESA; however, the species is fully protected pursuant to Section 3511 of the California FGC. White-tailed kite species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts. In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural fields, meadows, farmlands, savannahs, and emergent wetlands.

Five documented CNDDB occurrences of the species exist within five miles of the study area. White-tailed kite is a SSHCP Covered Species, and the grassland and aquatic areas within the study area provide suitable foraging habitat for the species according to SSHCP Modeled Species Habitat. Thus, white-tailed kite has potential to occur within the study area.

Yellow-Billed Magpie

The yellow-billed magpie (*Pica nuttalli*) is not listed pursuant to either the CESA or FESA but is considered a USFWS bird of conservation concern. Yellow-billed magpie is an

endemic species that is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late-January to mid-February, which may take up to six to eight weeks to complete, with eggs laid during April through May, and fledging during May through June. The young leave the nest at about 30 days after hatching. Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004 through 2006.

Documented CNDDB occurrences of yellow-billed magpie within five miles of the study area do not exist. However, the grassland and trees within the study area provide suitable nesting habitat for the species. Thus, yellow-billed magpie has potential to occur within the study area.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is not listed pursuant to either the CESA or FESA; however, the species is considered a species of special concern by CDFW. The pallid bat is a large, light-colored bat with long, prominent ears and pink, brown, or grey wing and tail membranes. The species ranges throughout North America from the interior of British Columbia, south to Mexico, and east to Texas. The pallid bat inhabits low elevation (below 6,000 feet) rocky arid deserts and canyonlands, shrub-steppe grasslands, karst formations, and higher elevation coniferous forest (above 7,000 feet). The species roosts alone or in groups in the crevices of rocky outcrops and cliffs, caves, mines, trees, and in various human structures such as bridges, and barns. Pallid bats are feeding generalists that glean a variety of arthropod prey from surfaces as well as capturing insects on the wing. Foraging occurs over grasslands, oak savannahs, ponderosa pine forests, talus slopes, gravel roads, lava flows, fruit orchards, and vineyards. Although the species uses echolocation to locate prey, often the species relies only on passive acoustic cues. The species is not thought to migrate long distances between summer and winter sites.

Documented CNDDB occurrences of pallid bat within five miles of the study area do not exist. However, some of the structures within the study area represent potential hibernacula. Thus, pallid bat has potential to occur within the study area.

Western Red Bat

The western red bat (*Lasiurus blossevillii*) is not listed pursuant to either the CESA or FESA; however, the species is considered a species of special concern by CDFW. The western red bat is easily distinguished from other western bat species by its distinctive red coloration. The species is broadly distributed, with a range extending from southern British Columbia in Canada through Argentina and Chile in South America, and including much of the western U.S. The species day roosts primarily in the foliage of trees or shrubs in edge habitats bordering streams or open fields, in orchards, and occasionally urban areas. They western red bat may be associated with intact riparian habitat, especially with willows, cottonwoods, and sycamores. The species may occasionally utilize caves for roosting as well. Western red bat feeds on a variety of insects, and generally begin to forage one to two hours after sunset. The species is considered highly migratory; however, the timing of migration and the summer ranges of males and females may be different. Winter behavior of the species is poorly understood.

Documented CNDDB occurrences of the species within five miles of the study area do not exist. However, western red bat is a SSHCP Covered Species. The grassland and wetland areas within

the study area provide suitable foraging habitat, and the Raymer Way Offsite contains roosting-foraging habitat for this species according to SSHCP Modeled Species Habitat. A preliminary survey of potential habitat identified some of the trees with cavities along Morrison Creek as potential hibernacula. Thus, western red bat has potential to occur within the study area.

American Badger

American badger (*Taxidea taxus*) is not listed pursuant to either the CESA or FESA; however, the species is considered a species of special concern by CDFW. American badger historically ranged throughout much of the state, except in humid coastal forests. American badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the Central Valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties. American badgers occupy a variety of habitats, including grasslands and savannas. The principal requirements are significant food supply, friable soils, and relatively open, uncultivated ground.

One documented CNDDB occurrence of the species exists within five miles of the study area. American badger is a SSHCP Covered Species, and the grassland and wetland areas within the study area provide suitable foraging habitat for this species according to SSHCP Modeled Species Habitat. Thus, American badger has potential to occur within the study area.

Sensitive Natural Communities

Per the Biological Resources Assessment, five sensitive natural communities were initially identified as having the potential to occur within the study area based on a literature review: Great Valley Oak Riparian Forest, Ione Chaparral, Northern Hardpan Vernal Pool, Northern Volcanic Mudflow Vernal Pool, and Valley Needlegrass Grassland. Valley oaks are not present within the study area; therefore, Great Valley Oak Riparian Forest does not occur onsite. Vernal pool communities are present on-site, and are discussed separately under the Aquatic Resources section above. Chaparral vegetation is not present within the study area and the study area does not include any Ione formation soils; therefore, Ione chaparral is not present. The "Valley Needlegrass Grassland" vegetation alliance name used by the CNDDB has been phased out of use, and instead, "Needlegrass-Melic Grass Grassland" as well as other associations containing needlegrass (*Stipa* spp.) are now used by the California Vegetation Manual and the CDFW-maintained list of sensitive natural communities. Needlegrass species were not found during special-status plant surveys.

Based on the above, vernal pool communities are the only sensitive natural community known to occur within the study area.

Wildlife Movement Corridors

The study area does not fall within an Essential Habitat Connectivity area mapped by the CDFW. However, per the Biological Resources Assessment, the permanently ponded open waters and the small patches of riparian habitat along the upper reach of Morrison Creek within the Morrison Creek Offsite may represent a marginal wildlife movement corridor.

Trees

An arborist survey was conducted for the study area in October 2018 and June 2019 as part of the Arborist Survey Report prepared for the proposed project by ECORP Consulting, Inc. A total of 247 trees greater than six inches diameter at standard height (dsh) were mapped within the study area; all tree species inventoried are nonnative to the project region.

A total of 149 trees have a dsh equal to or greater than 12 inches and therefore meet the definition of a Protected Tree as defined in the City of Rancho Cordova's Tree Preservation Ordinance. The 149 Protected Trees include redwood (*Sequoia sempervirens*), eucalyptus (*Eucalyptus* spp.), callery pear (*Pyrus calleryana*), American sweetgum (*Liquidambar styraciflua*), Brazilian pepper-tree (*Schinus terabinthifolia*), deodar cedar (*Cedrus deodara*), white mulberry (*Morus alba*). Tree condition and structure for each of the protected trees was rated on a five-point scale (poor, fair to poor, fair, fair to good, and good) for each of the 247 trees surveyed. The locations of the protected trees are shown in Figure 4.2-5.

4.2.3 REGULATORY CONTEXT

A number of Federal, State, and local policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site.

Federal Regulations

The following are the federal environmental laws and policies relevant to biological resources.

Federal Endangered Species Act

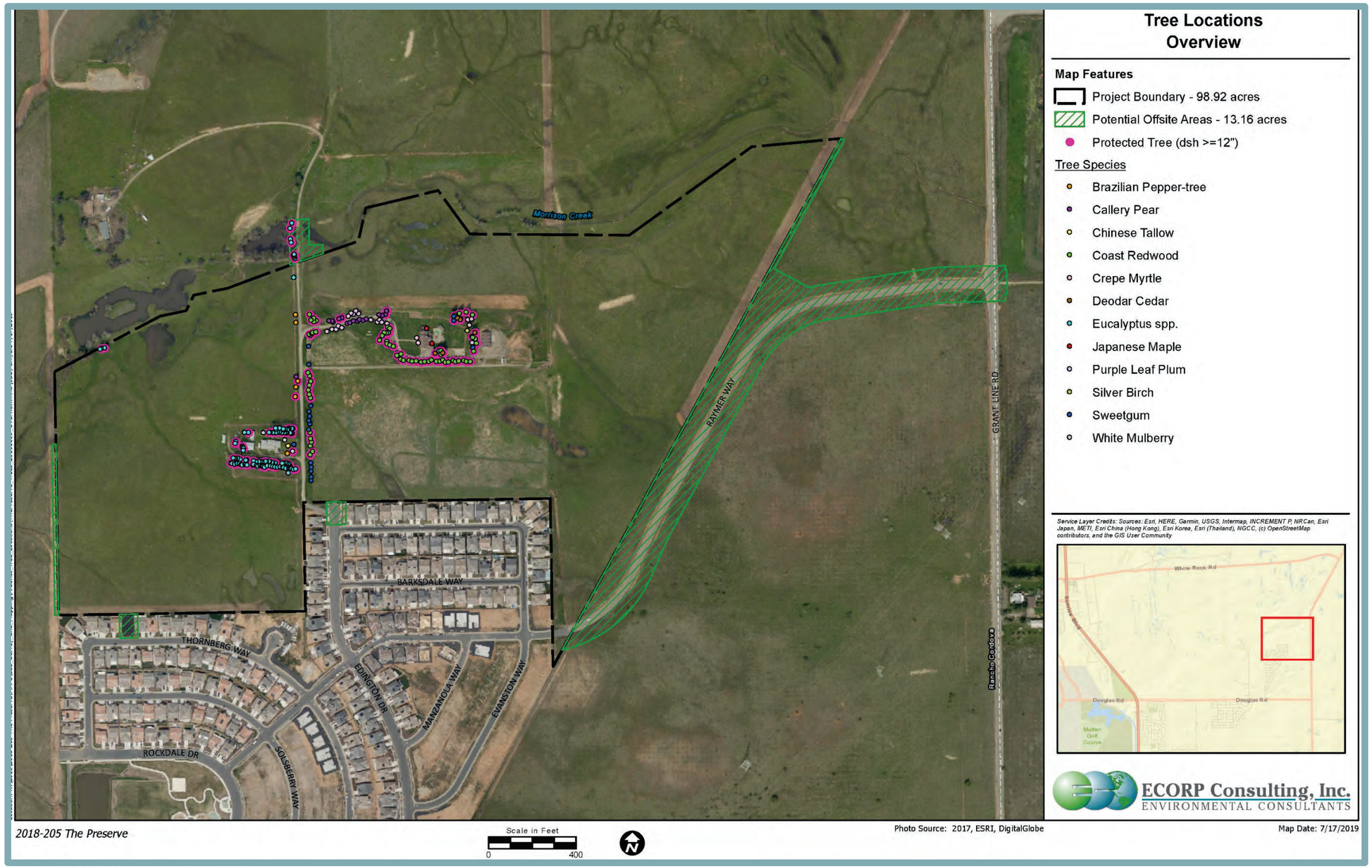
Under the FESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 U.S. Code [USC] Section 1533(c)). Two federal agencies oversee the FESA: the USFWS has jurisdiction over plants, wildlife, and resident fish, while the NMFS has jurisdiction over anadromous fish and marine fish and mammals. Section 7 of the FESA mandates that federal agencies consult with the USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species.

The FESA prohibits the 'take' of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery. Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

Section 10 requires the issuance of an "incidental take" permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan (HCP) that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

Pursuant to the requirements of the FESA, a federal agency reviewing a project within the jurisdiction of the agency must determine whether any federally listed threatened or endangered species may be present in the project area and whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536(3), (4)).

Figure 4.2-5
Tree Locations



Source: ECORP Consulting, Inc., 2019.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California FGC states, "It is unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the code or any regulation adopted pursuant thereto."

Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for the construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 CFR Section 328.2[f]). In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Section 328.3[b]).

Furthermore, jurisdictional waters of the U.S. can be defined by exhibiting a defined bed and bank and OHWM. The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

U.S Fish and Wildlife Service Draft Vernal Pool Recovery Plan

The USFWS designated critical habitat for certain vernal pool crustaceans and plants in 34 counties in California, including Sacramento County, and identified such habitat in its final rule of the vernal pool recovery plan on February 10, 2006, entitled, "Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions From August 2003 Final Designation." 71 Fed. Reg. 28 (2006) (to be codified at 50 CFR Part 17). The Recovery Plan identifies a five-part strategy to ameliorate or eliminate threats to affected species and to preserve intact vernal pools. The five key elements of the Recovery Plan are: habitat protection; adaptive habitat management, restoration, and monitoring; status surveys; research; and participation and outreach. The Recovery Plan identifies habitat loss, fragmentation, and isolation of functional vernal pool ecosystems as the greatest threat to the survival and recovery of listed species and species of concern that are found in vernal pools. According to the Recovery Plan, habitat loss is generally the result of urbanization, agricultural conversion, and mining. Habitat loss may also occur from habitat alteration and degradation as a result of changes to natural hydrology; invasive species; incompatible grazing regimes, including

insufficient grazing for prolonged periods; and infrastructure projects such as roads, water storage and conveyance, and utilities. In addition, recreational activities such as off-highway vehicles and hiking, erosion, contamination, and inadequate management and monitoring may result in habitat loss. Habitat fragmentation is generally the result of activities associated with habitat loss due to road and other infrastructure projects that contribute to the isolation and fragmentation of vernal pool habitats.

State Regulations

The following are the State environmental laws and policies relevant to biological resources.

California Department of Fish and Wildlife

CDFW administers a number of laws and programs designed to protect fish and wildlife resources under the California FGC, such as CESA (FGC Section 2050, et seq.), Fully Protected Species (FGC Section 3511) and the Lake or Streambed Alteration Agreement Program (FGC Sections 1600 to 1616). Such regulations are summarized in the following sections.

California Endangered Species Act

The State of California enacted CESA in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that "overriding considerations" exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

CESA prohibits the taking of State-listed endangered or threatened plant and wildlife species. CDFW exercises authority over mitigation projects involving State-listed species, including those resulting from CEQA mitigation requirements. CDFW may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. CDFW requires preparation of mitigation plans in accordance with published guidelines.

Fish and Game Code Section 3505

Birds of prey are protected in California under provisions of the California FGC, Section 3503.5, (1992), which states, "it is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by CDFW.

Lake or Streambed Alteration Program

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the California FGC, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, the CDFW will require that the parties enter into a Lake or Streambed Alteration Agreement.

CDFW Species of Special Concern

In addition to formal listings under FESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may by considered for review are included on a list of "Species of Special Concern" developed by CDFW. Species whose numbers, reproductive success, or habitat may be threatened are tracked by CDFW in California.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. Currently 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the federal CWA. Although the CWA is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Quality Control Boards (RWQCBs) are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within waters of the U.S., and also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan. The Procedures consist of four major elements: (1) a wetland definition; (2) a framework for determining if a feature that meets the wetland definition is a water of the State; (3) wetland delineation procedures; and (4) procedures for the submittal, review, and approval of applications for WQCs and Waste Discharge Requirements (WDRs) for dredge or fill activities. The State Office of Administrative Law approved the Procedures on August 28, 2019, and the Procedures became effective May 28, 2020.

Under the Procedures and the State Water Code (Water Code Section 13050[e]), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce WDRs, National Pollution Discharge Elimination System (NPDES) permits, Section 401 WQC, or other approvals.

Local Regulations

The following are the local environmental laws and policies relevant to biological resources.

City of Rancho Cordova General Plan

Goals and policies from the City's General Plan related to biological resources that are applicable to the proposed project are presented below:

Goal NR1: Protect and preserve diverse wildlife and plant habitats, including habitat for special status species.

- Policy NR.1.1 Protect rare, threatened, and endangered species and their habitats in accordance with State and federal law.
- Policy NR.1.4 Discourage the planting of invasive species.
- Policy NR.1.7 Prior to project approval, the City shall require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain listed plant and/or wildlife species based upon the City's biological resource mapping provided in the General Plan EIR or other technical materials.
- Policy NR.1.8 The City shall encourage creation of habitat preserves that are immediately adjacent to each other in order to provide interconnected open space areas for animal movement.
- Policy NR.1.9 The City shall require that impacts to riparian habitats be mitigated at a no net loss of existing function and value based on field survey and analysis of the riparian habitat to be impacted. No net loss may be accomplished by avoidance of the habitat, restoration of existing habitat, or creation of new habitat, or through some combination of the above.

Policy NR.1.10 The placement of new roadways within habitat preserves shall be discouraged, but is not prohibited. This Policy shall not apply to roadways shown in the Circulation Element or needed to meet goals or policies of the Circulation Element.

Policy NR.1.11 In such cases where a new roadway crosses a habitat preserve or separates two adjacent preserves, the roadway shall include design features, where feasible and appropriate, to allow for the movement of wildlife across or beneath the road without causing a hazard for vehicles, bicycles and pedestrians on the roadway.

Goal NR.2: Preserve the City's rich and diverse natural wetlands.

Policy NR.2.1 Require mitigation that provides for "no net loss" of wetlands consistent with current State and federal policies.

Policy NR.2.2 Ensure that direct and indirect effects to wetland habitats are mitigated to the extent feasible by environmentally sensitive project siting and design or other measures.

Policy NR.2.5 The City shall require that drainage improvements that discharge into areas of wetlands to be preserved are, to the maximum extent feasible, designed to mimic the undeveloped surface water flow conditions of the area in terms of seasonality, volume, and flow velocity.

Goal NR.3: Preserve and maintain creek corridors and wetland preserves with useable buffer zones throughout the new development areas as feasible.

Policy NR.3.2 In general, the City will encourage the preservation of existing location, topography, and meandering alignment of natural creeks. The modification, re-creation and realignment of creek corridors shall recreate the character of the natural creek corridor to the extent feasible, appropriate and consistent with other City policies. Channelization and the use of concrete within creek corridors shall be discouraged, but is not prohibited.

Policy NR.3.3 Encourage the creation of secondary flood control channels where the existing channel supports extensive riparian vegetation.

Policy NR.3.4 Encourage projects that contain wetland preserves or creeks, or are located adjacent to wetland preserves or creeks, to be designed for visibility and, as appropriate, access.

Goal NR.4: Encourage the planting and preservation of high-quality trees throughout the City.

Policy NR.4.1 Conserve native oak and landmark tree resources for their historic, economic, aesthetic, educational, and environmental value.

Policy NR.4.2 Improve overall landscaping quality and sustainability in all areas visible to the public.

Policy NR.4.4 Prior to the approval of any public or private development project in areas identified or assumed to contain trees, the City shall require that a determinate survey of trees species and size be performed. If any native oaks or other native trees six inches or more in diameter at breast height (dbh), multitrunk native oaks or native trees of 10 inches or greater dbh, or non-native trees of 18 inches or greater dbh that have been determined by a certified arborist to be in good health are found to occur, such trees shall be avoided if feasible. If such trees cannot be avoided, the project applicant shall do one of the following:

- All such trees shall be replaced at an inch-for-inch ratio. A replacement tree planting plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the City of Rancho Cordova for approval prior to removal of trees; or,
- The project applicant shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City of Rancho Cordova. The mitigation plan shall be subject to the approval of the City.
- If the City of Ranch Cordova adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.

City of Rancho Cordova Tree Protection Ordinance

Chapter 19.12, Preservation and Protection of Private Trees, of the City's Municipal Code establishes regulations for the protection, removal, and preservation of landmark trees and protected trees within the City. "Landmark trees" are defined as any trees designated by council through resolution as a vital and historical part of the City's landscape, such that the trees need to be designated as landmarks for protection and preservation. "Protected tree" is defined to include the following:

1. Native oak – Quercus lobata, valley oak; Quercus wislizenii, interior live oak; Quercus douglasii, blue oak; or Quercus morehus, oracle oak – having a trunk diameter of at least six inches or greater; or
2. Any tree species other than a native oak having a trunk diameter of at least 12 inches or greater on nonresidential property; or
3. Any tree species other than a native oak having a trunk diameter of at least 24 inches or greater on residential property; or
4. Any tree planted as a requirement tree for site development, tree permit condition, landscape plan removal replacement, or other designated condition by the Public Works Director or Planning Director.
5. "Protected tree" does not include any trees for sale within the City sold by a nursery.

Per Section 19.12.090, no person shall, without an approved permit from the Public Works Director, do, or cause to be done by others, any of the following acts:

A. Secure, fasten, or run any rope, wire, sign, unprotected electrical installation or other device or material to, around, or through a protected tree;
B. Break, injure, deface, kill, or destroy a protected tree or allow any fire to burn where it will injure any protected tree;
C. Allow any chemical, gas, smoke, salt brine, oil, pesticide, or other injurious substance to seep, drain, or be emptied upon, above, or below any protected tree;
D. Excavate any ditch, tunnel, or trench, or fill within the dripline of any protected tree;
E. Erect, alter, repair or raze any building or structure without placing suitable guards around all nearby protected trees which may be injured by such operations;
F. Remove any guard or other device or materials intended for the protection of a protected tree or take away or obstruct any open space around the base of a protected tree designed to prevent soil compaction or physical damage; or
G. Allow the topping of any protected tree. [Ord. 12-2017 Section 2].

South Sacramento Habitat Conservation Plan

The SSHCP is intended to streamline federal and State permitting processes for SSHCP-covered development and infrastructure projects while protecting habitat, open space and agricultural lands.[8] The SSHCP plan area encompasses 317,656 acres that are bordered by U.S. Route 50 (US 50) on the north, San Joaquin County on the south, El Dorado County and Amador County to the east, and the Sacramento River to the west, including Galt and most of Rancho Cordova. Within the SSHCP plan area, 36,282 acres are to become part of an interconnected preserve system, including approximately 1,000 acres of vernal pool habitat. A total of 28 plant and wildlife species, and their natural habitats, are conserved under the plan.

The SSHCP is led by a multi-jurisdiction collaborative that includes Sacramento County; the cities of Rancho Cordova and Galt; the Sacramento County Water Agency; the Sacramento Regional County Sanitation District; and the Capital SouthEast Connector Joint Powers Authority. The Rancho Cordova City Council adopted the SSHCP on October 15, 2018.

4.2.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to biological resources. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the County's General Plan, and professional judgment, a significant impact would occur if the proposed project would result in the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

[8] South Sacramento Habitat Conservation Plan. *What is the South Sacramento HCP?* Available at: https://www.southsachcp.com/. Accessed July 2019.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan.

Method of Analysis

The analysis presented herein is based primarily on the Biological Resources Assessment prepared for the proposed project by ECORP. The Biological Resources Assessment includes, as attachments, an Aquatic Resources Delineation and Arborist Survey Report prepared for the project.

Special-Status Species

As part of the Biological Resources Assessment, a list of special-status species with potential to occur within the study area was developed by conducting a query of the following resources:

- CNDDB record search for the "Buffalo Creek, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles;
- USFWS Information, Planning, and Consultation System Resource Report List for the study area;
- CNPS' electronic Inventory of Rare and Endangered Plants of California was queried for the "Buffalo Creek, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles; and
- SSHCP Modeled Species Habitat data for the study area.

Field Assessment for Covered Species and Pallid Bat

Surveys for potential habitat for tricolored blackbird, burrowing owl, Swainson's hawk, other raptors, and western red bat were conducted per requirements of SSHCP Avoidance and Minimization Measures (AMMs) TCB-1, WBO-1, SWHA-1, RAPTOR-1, and BAT-1. The methods used and results of the surveys are described in Attachment C to the Biological Resources Assessment (see Appendix D). Inaccessible off-site areas and surrounding buffers were visually assessed from within the study area or from publicly accessible roads.

It should be noted that pallid bat is not an SSHCP covered species, but is considered a species of special concern by CDFW. A CNDDB search revealed a nearby occurrence of pallid bat. Therefore, although not an SSHCP-covered species, ECORP Consulting Inc. assessed potential pallid bat habitat within the study area using AMM BAT-1.

Information from the surveys was used to determine whether specific potential habitat features (e.g., nesting trees, burrows) for the covered species were present within the study area. In

addition, surveys for special-status plant species were conducted per AMMs PLANT-1 and ORCUTT-1, as well as guidelines promulgated by USFWS, CDFW, and CNPS. The special-status plant surveys were conducted on April 29, 2019 and June 13, 2019 by ECORP Consulting, Inc. The results of the surveys are described in the Special-Status Plant Survey Report, included as Attachment D to the Biological Resources Assessment (see Appendix D).

Field Assessment for Other Species

Several surveys were conducted by ECORP Consulting, Inc. during fall 2018 and spring 2019. During the surveys, the study area was walked on foot, and topographic maps and aerial imagery were referenced. Biological communities occurring within the study area were characterized and the following biological resource information was collected:

- Potential aquatic features (described in detail under the Aquatic Resources Delineation section below);
- Protected trees occurring on-site;
- Animal and plant species directly observed;
- Habitat and vegetation communities; and
- Representative photographs of the study area.

Aquatic Resources Delineation

The Aquatic Resources Delineation was conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Region Supplement). The boundaries of aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Field data were recorded on Wetland Determination Data Forms - Arid West Region. A color aerial photograph was used to assist with mapping and ground-truthing. Munsell Soil Color Charts and the Natural Resources Conservation Services (NRCS) Web Soil Survey were used to aid in identifying hydric soils in the field. The 2012 Jepson Manual, 2nd Edition was used for plant nomenclature and identification.

Field surveys were conducted on October 12, 2018 by ECORP Consulting, Inc. The entire 41.2-acre unverified portion of the delineation area was walked to determine the location and extent of aquatic resources. Paired locations were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Aquatic resources within the unverified portion of the delineation area were recorded in the field using a post-processing capable global positioning system unit with sub-meter accuracy (Trimble GeoXT). The previously verified portion of the delineation area was reviewed through aerial photograph interpretation and limited field reconnaissance.

As part of the Addendum to the Aquatic Resources Delineation, an assessment of potential waters of the U.S. within the Raymer Way Offsite was conducted on June 13, 2019 by ECORP Consulting, Inc. biologist Matt Spaulding. Access to the property was not authorized; therefore, Mr. Spaulding walked along Raymer Way and assessed potential aquatic features from the publicly accessible roadway. In addition, historic aerial photos were reviewed. Several roadside ditches were mapped and classified as swales according to land cover definitions within the SSHCP.

Arborist Survey Report

ECORP Consulting, Inc. arborist Ben Waitman (ISA Certification #WE-12108), assisted by ECORP biologist Daniel Wong, conducted a field survey of the study area on October 9, 2018 and June 13, 2019. During the field surveys, the entire study area was walked or viewed across level ground, and data were recorded using an iPad paired with a GPS unit accurate to less than one meter. The survey data included species, dsh, dripline radius, tree structure, and tree condition. Each surveyed tree was tagged with a permanent numbered aluminum tag at breast height (approximately 4.5 feet).

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to biological resources is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.2-1 Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As shown in Table 4.2-2, the study area contains potentially suitable habitat for special-status plant species. Special-status plant species were not detected within the project site during the special-status plant surveys conducted in spring and summer 2019. However, per the Biological Resources Assessment, the unsurveyed Raymer Way Offsite provides suitable habitat for stinkbells and Ahart's dwarf rush.

The proposed project would include ground disturbance and removal of vegetation associated with removal of the existing gravel roadway within the Raymer Way Offsite. The Raymer Way Offsite was not included in the special-status plant surveys prepared for the study area. Thus, in the event that stinkbells and Ahart's dwarf rush occur within the Raymer Way Offsite, the proposed project could result in a ***significant*** impact related to the disturbance of special-status plant species.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

4.2-1(a) *Prior to initiation of ground-disturbing activities within the Raymer Way Offsite, the project applicant shall comply with SSHCP AMM Plant-1 (Rare Plant Surveys). Though stinkbells is not considered an SSHCP Covered Species, the special-status plant surveys conducted per PLANT-1 shall identify whether the species is present in the survey area. If any special-status plant species are found to be present during the focused survey(s), Mitigation Measure 4.2-1(b) shall be implemented. If special-status plant species are not found to be present during the focused survey(s), then no further action is required. A written summary of the survey results shall be submitted to the City of Rancho Cordova Community Development Department.*

- ***PLANT-1 (Rare Plant Surveys):*** *If a Covered Activity project site contains modeled habitat for Ahart's dwarf rush (Juncus leiospermus var. ahartii), Bogg's Lake hedge-hyssop (Gratiola heterosepala), dwarf downingia (Downingia pusilla), Legenere (Legenere limosa), pincushion navarretia (Navarretia myersii), or Sanford's arrowhead (Sagittaria sanfordii), the Covered Activity project site will be surveyed for the rare plant by an approved biologist and following the California Department of Fish and Wildlife (CDFW) rare plant survey protocols (CDFG 2009) or the most recent CDFW rare plant survey protocols. An approved biologist will conduct the field surveys and will identify and map plant species occurrences according to the protocols. See Chapter 10 (of the SSHCP) for the process to submit survey information to the Plan Permittee and the Permitting Agencies.*

4.2-1(b) *If any SSHCP-covered plants are determined to be present within the Raymer Way Offsite, SSHCP PLANT-2 (Rare Plant Protection) shall be implemented. If any special-status plant species are determined to be present, a mitigation plan shall be prepared for review and approval by the City of Rancho Cordova; mitigation may include harvesting and transplanting of impacted bulbs into a preserved area with suitable habitat. Avoided areas containing species shall be fenced with orange construction fencing.*

- ***PLANT-2 (Rare Plant Protection):*** *If a rare plant listed in AMM PLANT-1 is detected within an area proposed to be disturbed by a Covered Activity or is detected within 250 feet of the area proposed to be disturbed by a Covered Activity, the Implementing Entity will assure one unprotected occurrence of the species is protected within a SSHCP Preserve before any ground disturbance occurs at the project site.*

4.2-2 Have a substantial adverse effect, either directly or through habitat modifications, on special-status invertebrates. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Per the Biological Resources Assessment, the existing vernal pools located within the study area were determined to contain vernal pool fairy shrimp. In addition, the vernal pools provide suitable habitat for other special-status vernal pool branchiopods, including conservancy fairy shrimp, midvalley fairy shrimp, Ricksecker's water scavenger beetle, and vernal pool fairy shrimp. The proposed development footprint would include all 2.613 acres of vernal pool habitat identified within the study area per the Biological Resources Assessment. Therefore, in the event that such pools are occupied by special-status vernal pool branchiopods prior to the start of ground-disturbing activities associated with the proposed project, development of the proposed project could cause a substantial adverse effect to vernal pool branchiopods, and a ***significant*** impact could result.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

4.2-2(a) *Prior to initiation of ground-disturbing activities, the project applicant shall submit a South Sacramento Habitat Conservation Plan (SSHCP) permit application package to the City of Rancho Cordova to request that the incidental take coverage provided by City's SSHCP Incidental Take Permit (ITP) be extended to the proposed activities. The City of Rancho Cordova shall review the SSHCP permit application for consistency with all of the SSHCP requirements and provide the South Sacramento Conservation Agency with a copy of the SSHCP requirements for tracking purposes. The project applicant shall be responsible for paying all SSHCP development fees associated with obtaining coverage from the City of Rancho Cordova. Any proposal to provide land in fee title, or provide a conservation easement in lieu of paying all or part of the required SSHCP development fees, shall include a consistency analysis in the application that sufficiently shows that the proposal is consistent with the SSHCP Conservation Strategy.*

4.2-2(b) *The project applicant shall comply with SSHCP requirements and all relevant AMMs set forth in the SSHCP Permit obtained for the proposed project.*

4.2-2(c) *Prior to approval of grading and improvement plans and prior to initiation of any groundbreaking activity associated with the proposed project, or timed as required by the applicable permits if the proposed project is constructed in phases, the project applicant shall ensure that mitigation for impacts to aquatic features and other habitat for special-status species has been implemented through the SSHCP In-Lieu Fee Program or by other methods agreeable to the USACE, RWQCB, USFWS, CDFW, City, and South Sacramento Conservation Agency as appropriate, depending on agency jurisdiction.*

4.2-3 Have a substantial adverse effect, either directly or through habitat modifications, on special-status amphibian species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As noted in the Biological Resources Assessment, according to SSHCP Modeled Species Habitat, the grassland and aquatic areas within the study area provide suitable foraging habitat for western spadefoot. In addition, while SSHCP Modeled Species Habitat for western pond turtle is not present within the study area, the ponded areas along the Morrison Creek Offsite may provide suitable aquatic habitat and the adjacent grasslands provide suitable upland habitat for the species. Thus, both western spadefoot and western pond turtle have the potential to occur within the study area.

Construction of the proposed project would include disturbance of existing grassland habitat within the study area. Thus, the project could cause a substantial adverse effect, either directly or through habitat modifications, on western spadefoot and western pond turtle. A ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Western Spadefoot

4.2-3(a) The project applicant shall comply with SSHCP AMMs WS-1 through WS-6.

- ***WS-1 (Western Spadefoot Work Window):*** *Ground-disturbing Covered Activities within western spadefoot modeled habitat (Figure 3-17 [of the SSHCP]) will occur outside the breeding and dispersal season (after May 15 and before October 15), to the maximum extent practicable.*

- ***WS-2 (Western Spadefoot Exclusion Fencing):*** *If Covered Activities must be implemented in modeled habitat (Figure 3-17) after October 15 and before May 15, exclusion fencing will be installed around the project footprint before October 15, and the project site must be monitored by an approved biologist following rain events. Temporary high- visibility construction fencing will be installed along the edge of work areas, and silt fencing will be installed immediately behind the temporary high-visibility construction fencing to exclude western spadefoot from entering the construction area. Fencing will remain in place until all construction activities within the construction area are completed. No project activities will occur outside the delineated project footprint. If a western spadefoot is encountered, refer to WS-6, below.*

- ***WS-3 (Western Spadefoot Monitoring):*** *If Covered Activities must be implemented in modeled habitat (Figure 3-17 [of the SSHCP]) in the breeding and dispersal season (after October 15 and before May 15), an approved biologist experienced with western spadefoot identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place, and will inspect the project site daily for western spadefoot prior to construction activities. The approved biologist will also train construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western spadefoot enters an active construction zone (i.e., outside the buffer zone). If a western spadefoot is encountered, refer to WS-6, below.*

- ***WS-4 (Avoid Western Spadefoot Entrapment):*** *If a Covered Activity occurs in western spadefoot modeled habitat (Figure 3-17 [of the SSHCP]), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western spadefoot modeled habitat will be inspected for western spadefoot by the approved biologist prior to being moved. If a western spadefoot is encountered, refer to WS-6 below.*

- ***WS-5 (Erosion Control Materials in Western Spadefoot Habitat):*** *If erosion control (BMP-2) is implemented within western spadefoot modeled habitat (Figure 3-17 [of the SSHCP]), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that western spadefoots are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.*

Western Pond Turtle

4.2-3(b) *Prior to initiation of ground-disturbing activities, pre-construction surveys shall be conducted per SSHCP AMM WPT-1. If western pond turtles are detected, WPT-2 through WPT-9 shall be implemented.*

- ***WPT-1 (Western Pond Turtle Surveys):*** *If the SSHCP western pond turtle modeled habitat maps (Figure 3-19 [of the SSHCP]) show that modeled habitat for western pond turtle is present within a Covered Activity's project footprint or within 300 feet of a project footprint, then an approved biologist will conduct a field investigation to delineate western pond turtle aquatic habitat within the project footprint and within 300 feet of the project footprint. In addition to the SSHCP land cover types shown in Figure 3-19 (of the SSHCP), western pond turtle aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, and rice fields. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential sites and provide those maps to the Local Land Use Permittees and the Implementing Entity. Locations of delineated western pond turtle habitat must also be noted on plans that are submitted*

to a Local Land Use Permittee. The applicant will use this information to finalize project design. Covered Activities may occur throughout the year as long as western pond turtle habitat is identified and fully avoided. Otherwise, Covered Activities must comply with WPT-2 through WPT-9. See Chapter 10 (of the SSHCP) for the process to conduct and submit survey information.

- ***WPT-2 (Western Pond Turtle Work Window):*** *Maintenance and improvements to existing structures may occur throughout the year as long as western pond turtle habitat is identified and avoided, and movement of equipment is confined to existing roads. Otherwise, construction and ground-disturbing Covered Activities must be conducted outside of western pond turtle's active season. Construction and ground-disturbing activities will be initiated after May 1 and will commence prior to September 15. If it appears that construction activities may go beyond September 15, the appropriate Plan Permittee will contact the Local Land Use Permittee and the Implementing Entity as soon as possible, but not later than September 1, to determine if additional measures are necessary to minimize take.*

- ***WPT-3 (Western Pond Turtle Monitoring):*** *If a Covered Activity is occurring in western pond turtle modeled habitat (Figure 3-19 [of the SSHCP]), an approved biologist experienced with western pond turtle identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for western pond turtle prior to construction activities. The approved biologist will also training construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western pond turtle enters an active construction zone (i.e., outside the buffer zone).*

- ***WPT-4 (Western Pond Turtle Habitat Dewatering and Exclusion):*** *If construction activities will occur in western pond turtle aquatic habitat, aquatic habitat for the turtle will be dewatered and then remain dry and absent of aquatic prey (e.g., crustaceans and other aquatic invertebrates) for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to western pond turtle. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed*

extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent turtles from attempting to burrow or move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Western pond turtle habitat outside construction fencing will be avoided by all construction personnel. The fencing and work area will be inspected by the approved biologist to ensure that the fencing is intact and that no turtles have entered the work area before the start of each work day. Fencing will be maintained by the contractor until completion of the project. If, after exclusion fencing and dewatering, western pond turtles are found within the project footprint or within 300 feet of the project footprint, the Third-Party Project Proponent will discuss the next best steps with the Implementing Entity and Wildlife Agencies.

- ***WPT-5 (Avoid Western Pond Turtle Entrapment):*** *If a Covered Activity occurs within western pond turtle modeled habitat (Figure 3-19 [of the SSHCP]), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western pond turtle modeled habitat will be inspected for western pond turtle by the approved biologist prior to being moved.*

- ***WPT-6 (Erosion Control Materials in Western Pond Turtle Habitat):*** *If erosion control (BMP-2) is implemented within western pond turtle modeled habitat (Figure 3-19 [of the SSHCP]), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that turtles are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.*

- ***WPT-7 (Western Pond Turtle Modeled Habitat Speed Limit):*** *Covered Activity construction and maintenance vehicles will observe a 20-mile-per-hour speed limit within*

western pond turtle modeled upland habitat (Figure 3-19 [of the SSHCP]).

- ***WPT-8 (Western Pond Turtle Encounter Protocol):*** *If a western pond turtle is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the turtle, within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service immediately. Any worker who inadvertently injures or kills a western pond turtle or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.*

- ***WPT-9 (Western Pond Turtle Post-Construction Restoration):*** *After completion of ground- disturbing Covered Activities, the applicant will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes such activities as re-vegetating the banks and active channels with a seed mix similar to pre-project conditions. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the Implementing Entity. Restoration work may include replanting emergent aquatic vegetation and placing appropriate artificial or natural basking areas in waterways and wetlands. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.*

4.2-4 Have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As noted previously, the grassland within the study area provides suitable nesting and foraging habitat for burrowing owl and the aquatic features provide suitable foraging habitat for the species, according to SSHCP Modeled Species Habitat. In addition, burrowing owls and occupied burrows were observed along the southeastern boundary of the project site during a preliminary survey of potential habitat. Therefore, burrowing owl is considered present within the study area.

Construction activities associated with implementation of the proposed project would include disturbance of on-site grassland habitat, and would have the potential to disturb existing burrowing owl burrows on the project site. Should individual burrowing owls be present within burrows during ground disturbance within the study area, project construction could result in loss of individual owls. As such, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl. A ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.2-4 *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs WBO-2 through WBO-7. If western burrowing owl is found within the survey area, WBO-3 through 7 shall be implemented as required based on the results of surveys conducted per WBO-2.*

- ***WBO-1 (Western Burrowing Owl Surveys):*** *Surveys within modeled habitat are required for both the breeding and non-breeding season. If the project site falls within modeled habitat, an approved biologist will survey the project site and map all burrows, noting any burrows that may be occupied. Occupied burrows are often (but not always) indicated by tracks, feathers, egg shell fragments, pellets, prey remains, and/or excrement. Surveying and mapping will be conducted by the approved biologist while walking transects throughout the entire project site plus all accessible areas within a 250-foot radius from the project site. The centerline of these transects will be no more than 50 feet apart and will vary in width to account for changes in terrain and vegetation that can preclude complete visual coverage of the area. For example, in hilly terrain with patches of tall grass, transects will be closer together, and in open areas with little vegetation, they can be 50 feet apart. This methodology is consistent with current survey protocols for this species (California Burrowing Owl Consortium 1993). Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If suitable habitat is identified during the initial survey, and if the project does not fully avoid the habitat, pre-construction surveys will be required. Burrowing owl habitat is fully avoided if project-related activities do not impinge on a 250-foot buffer established by the approved biologist around suitable burrows. See Chapter 10 (of the SSHCP) for the process to conduct and submit survey information.*

- ***WBO-2 (Western Burrowing Owl Pre-Construction Surveys):*** *Prior to any Covered Activity ground disturbance, an approved biologist will conduct pre-construction surveys in all*

areas that were identified as suitable habitat during the initial surveys. The purpose of the pre-construction surveys is to document the presence or absence of burrowing owls on the project site, particularly in areas within 250 feet of construction activities. To maximize the likelihood of detecting owls, the pre-construction survey will last a minimum of 3 hours. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total), or begin 2 hours before sunset and continue until 1 hour after sunset. Additional time may be required for large project sites. A minimum of two pre-construction surveys will be conducted (if owls are detected on the first survey, a second survey is not needed). All owls observed will be counted and their location will be mapped. Surveys will conclude no more than 2 calendar days prior to construction. Therefore, the Third-Party Project Proponent must begin surveys no more than 4 days prior to construction (2 days of surveying plus up to 2 days between surveys and construction). To avoid last-minute changes in schedule or contracting that may occur if burrowing owls are found, the Third-Party Project Proponent may also conduct a preliminary survey up to 15 days before construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than 2 calendar days in advance of construction.

- ***WBO-3 (Burrowing Owl Avoidance):*** *If western burrowing owl or evidence of western burrowing owl is observed on the project site or within 250 feet of the project site during pre-construction surveys, then the following will occur:*

  During Breeding Season: *If the approved biologist finds evidence of western burrowing owls within a project site during the breeding season (February 1 through August 31), all project-related activities will avoid nest sites during the remainder of the breeding season or while the nest remains occupied by adults or young (nest occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance is establishment of a minimum 250-foot buffer zone around nests. Construction and other project-related activities may occur outside of the 250-foot buffer zone. Construction and other project-related activities may be allowed inside of the 250-foot non-disturbance buffer during the breeding season if the nest is not disturbed, and the Third-Party Project Proponent develops an avoidance, minimization, and monitoring plan that is approved by the Implementing Entity and Wildlife Agencies prior to project construction based on the following criteria:*

- *The Implementing Entity and Wildlife Agencies approve of the avoidance and minimization plan provided by the project applicant.*
- *An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).*
- *The same approved biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.*

If there is any change in owl nesting and foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer. Construction cannot resume within the 250-foot buffer until any owls present are no longer affected by nearby construction activities, and with written concurrence from the Wildlife Agencies.

If monitoring by the approved biologist indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use, the non-disturbance buffer zone may be removed if approved by the Wildlife Agencies. The approved biologist will excavate the burrow in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl to prevent reoccupation after receiving approval from the Wildlife Agencies.

The Implementing Entity and Wildlife Agencies will respond to a request from the Third-Party Project Proponent to review the proposed construction monitoring plan within 21 days.

***During Non-Breeding Season:** During the non-breeding season (September 1 through January 31), the approved biologist will establish a minimum 250-foot non-disturbance buffer around occupied burrows. Construction activities outside of this 250-foot buffer will be allowed. Construction activities within the non-disturbance buffer will be allowed if the following criteria are met to prevent owls from abandoning over- wintering sites:*

- *An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).*
- *The same approved biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.*
- *If there is any change in owl foraging behavior as a result of construction activities, the approved biologist will*

have authority to shut down activities within the 250-foot buffer.

- *If the owls are gone for at least 1 week, the Third-Party Project Proponent may request approval from the Implementing Entity and Wildlife Agencies that an approved biologist excavate usable burrows and install one-way exclusionary devices to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue.*

Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.

- ***WBO-4 (Burrowing Owl Construction Monitoring):*** *During construction of Covered Activities, 250-foot construction buffer zones will be established and maintained around any occupied burrow. An approved biologist will monitor the site to ensure that buffers are enforced and owls are not disturbed. The approved biologist will also train construction personnel on avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.*

- ***WBO-5 (Burrowing Owl Passive Relocation):*** *Passive relocation is not allowed without the express written approval of the Wildlife Agencies. Passive owl relocation may be allowed on a case-by-case basis on project sites during the non-breeding season (September 1 through January 31) with the written approval of the Wildlife Agencies if the other measures described in this condition preclude work from continuing. Passive relocation must be done in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl. Passive relocation will only be proposed if the burrow needing to be removed or with the potential to collapse from construction activities is the result of a Covered Activity. If passive relocation is approved by the Wildlife Agencies, an approved biologist can passively exclude birds from their burrows during the non-breeding season by installing one-way doors in burrow entrances. These doors will be in place for 48 hours to ensure that owls have left the burrow, and then the biologist will excavate the burrow to prevent reoccupation. Burrows will be excavated using hand tools only. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure into the burrow to avoid having materials collapse into the burrow and trap owls inside. Other methods of passive relocation, based on best available science, may be approved by the Wildlife Agencies over the 50-year Permit Term.*

- ***WBO-6 (Burrowing Owl Timing of Maintenance Activities):*** *All activities adjacent to existing or planned Preserves, Preserve Setbacks, or Stream Setback areas will be seasonally timed, when safety permits, to avoid or minimize adverse effects on occupied burrows.*

- ***WBO-7 (Rodent Control):*** *Rodent control will be allowed only in developed portions of a Covered Activity project site within western burrowing owl modeled habitat. Where rodent control is allowed, the method of rodent control will comply with the methods of rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.*

4.2-5 Have a substantial adverse effect, either directly or through habitat modifications, on raptors and nesting birds. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The study area contains potential habitat for raptors and nesting birds that are protected by the MBTA. The following sections summarize available habitat within the study area for specific SSHCP Covered species and other non-covered species. Potential impacts to Swainson's hawk and tricolored blackbird are discussed separately under Impacts 4.2-6 and 4.2-7.

SSHCP Covered Species

According to SSHCP Modeled Species Habitat, the study area contains suitable habitat for raptors and nesting birds, as follows:

- The grassland and aquatic areas within the study area provide suitable foraging habitat for ferruginous hawk. Suitable nesting habitat is not present.
- The grassland within the study area provides suitable nesting and foraging habitat for loggerhead shrike and northern harrier and the aquatic features provide suitable foraging habitat for both species.
- The grassland and aquatic areas within the study area provide suitable foraging habitat for white-tailed kite. Suitable nesting habitat is not present.
- The grassland and trees within the study area provide suitable nesting habitat for yellow-billed magpie.

Thus, ferruginous hawk, loggerhead shrike, northern harrier, and yellow-billed magpie have potential to occur within the study area.

Other Special-Status Species

The project site provides winter foraging habitat for golden eagle, which is a CDFW fully protected species. The grassland within the study area provides suitable nesting habitat for grasshopper sparrow and suitable wintering habitat for merlin. Grasshopper sparrow is designated as a species of special concern per CDFW. Thus, golden eagle, grasshopper sparrow, and merlin have potential to occur within the study area.

Conclusion

Based on the above, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on raptors and nesting birds protected by the MBTA, including, but not limited to, ferruginous hawk, loggerhead shrike, northern harrier, white-tailed kite, yellow-billed magpie, golden eagle, grasshopper sparrow, and merlin. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.2-5(a) *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs RAPTOR-2 through RAPTOR-4. Raptor surveys conducted per RAPTOR-2 shall include surveying for golden eagle although it is not a SSHCP Covered Species. If raptor species (including golden eagles) are found nesting within the survey area, RAPTOR-3 and RAPTOR-4 shall be implemented as required based on the results of surveys conducted per RAPTOR-2. The following AMMs do not apply to Swainson's hawk or burrowing owl, as specific AMMs have been developed for such covered raptor species and are included in separate mitigation measures.*

- ***RAPTOR-2 (Raptor Pre-Construction Surveys):*** *Pre-construction surveys will be required to determine if active nests are present with a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites are found during initial surveys and construction activities will occur during the raptor breeding season. An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities within the proposed project footprint and within 0.25 mile of the proposed project footprint to determine presence of nesting covered raptor species. Pre- construction surveys will be conducted during the raptor breeding season. If a nest is present, then RAPTOR-3 and RAPTOR-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.*

- ***RAPTOR-3 (Raptor Nest/Roost Buffer):*** *If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25 mile temporary nest disturbance buffer around the active nest until the young have fledged.*

- ***RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring):*** *If project-related Covered Activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an approved biologist experienced with raptor behavior will be retained by the Third-Party Project*

Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone (i.e., outside the buffer zone).

4.2-5(b) *A qualified biologist shall conduct a preconstruction nesting bird survey of all areas associated with construction activities, and a 100-foot buffer around such areas, within 14 days prior to commencement of construction if construction occurs during the nesting season (February 1 through August 31). If active nests are found for any SSHCP Covered Species, the applicable SSHCP AMM(s) TCB-3 through -5, SWHA-3 through -4, WBO-3 through-6, and RAPTOR-3 through-4 shall be implemented. If active nests are found for any other species, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with the CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest, to be determined by a qualified biologist. Once the young are independent of the nest, further measures are not necessary.*

4.2-6 Have a substantial adverse effect, either directly or through habitat modifications, on Swainson's hawk. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The grassland and aquatic areas within the study area provide suitable foraging habitat for Swainson's hawk according to SSHCP Modeled Species Habitat. In addition, a preliminary survey of potential habitat found several trees within the Survey Area and survey buffers that represent potential nesting habitat for the species. Thus, Swainson's hawk has potential to occur within the study area. The proposed project would include removal of a portion of the existing trees within the study area. In the event that Swainson's hawk is present within such trees during ground-disturbance or tree removal activities associated with the proposed project, the project could have a substantial adverse effect, either directly or through habitat modifications, on the species. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.2-6 *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs SWHA-2 through SWHA-4. If Swainson's hawk nesting is found within the survey area during the pre-construction survey conducted per SWHA-2, then SWHA-3 and SWHA-4 shall be implemented as required based on the results of surveys conducted per SWHA-2.*

SWHA-2 (Swainson's Hawk Pre-Construction Surveys): *Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites were found during initial surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities to determine presence of nesting Swainson's hawk. Pre-construction surveys will be conducted during the breeding season (March 1 through September 15). If a nest is present, then SWHA-3 and SWHA-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.*

SWHA-3 (Swainson's Hawk Nest Buffer): *If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25-mile disturbance buffer around the active nest until the young have fledged, with concurrence from the Wildlife Agencies.*

SWHA-4 (Swainson's Hawk Nest Buffer Monitoring): *If nesting Swainson's hawks are present within the project footprint or within 0.25 mile of any project-related Covered Activity, then an approved biologist experienced with Swainson's hawk behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting Swainson's hawks begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and*

protocols in the event that a Swainson's hawk flies into an active construction zone (i.e., outside the buffer zone).

4.2-7 Have a substantial adverse effect, either directly or through habitat modifications, on tricolored blackbird. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

According to SSHCP Modeled Species Habitat, the grassland within the study area provides suitable nesting and foraging habitat for tricolored blackbird, and the aquatic features provide suitable foraging habitat. In addition, a preliminary survey of potential habitat documented evidence of previous tricolored blackbird nesting within patches of bull thistle (*Cirsium vulgare*) in the central portion of the project site, and a small area of riparian habitat along Morrison Creek was determined to represent potential nesting habitat. Tricolored blackbirds were not observed nesting during a site visit on June 13, 2019. However, the species is nomadic and may return to the study area prior to initiation of project construction activities. Thus, tricolored blackbirds are considered to be present within the study area.

In the event that tricolored blackbird is present within the study area during ground-disturbance associated with project construction, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on the species. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.2-7 *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs TCB-2 through TCB-5. If tricolored blackbirds are found within the survey area during the pre-construction survey conducted per TCB-2, then TCB-3 through TCB-5 shall be implemented as required based on the results of surveys conducted per TCB-2.*

- ***TCB-2 (Tricolored Blackbird Pre-Construction Surveys):*** *Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 500 feet of a project footprint if existing or potential nest sites were found during design surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and within 3 days of ground-disturbing activities, and within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence of nesting tricolored blackbird. Pre-construction surveys will be conducted during the breeding season (March 1 through August 31). Surveys conducted in February (to meet pre-construction survey requirements for work starting in March) must be*

conducted within 14 days and 3 days in advance of ground-disturbing activities. If a nest is present, then TCB-3 and TCB-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and the Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

- ***TCB-3 (Tricolored Blackbird Nest Buffer):*** *If active nests are found within the project footprint or within 500 feet of any project-related Covered Activity, the Third-Party Project Proponent will establish a 500-foot temporary buffer around the active nest until the young have fledged.*

- ***TCB-4 (Tricolored Blackbird Nest Buffer Monitoring):*** *If nesting tricolored blackbirds are present within the project footprint or within 500 feet of any project-related Covered Activity, then an approved biologist experienced with tricolored blackbird behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that tricolored blackbirds are exhibiting agitated behavior, construction will cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting tricolored blackbirds. If the biologist determines that the colonies are at risk, a meeting with the Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will be held to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone).*

- ***TCB-5 (Timing of Pesticide Use and Harvest Timing on Agricultural Preserves):*** *On SSHCP Agricultural Preserves, pesticides (including herbicides) will not be applied from January 1 through July 15.*

4.2-8 Have a substantial adverse effect, either directly or through habitat modifications, on special-status bats. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Per the Biological Resources Assessment, some of the structures within the study area represent potential hibernacula for pallid bat. In addition, according to SSHCP Modeled Species Habitat, the grassland and wetland areas within the study area provide suitable foraging habitat for western red bat, and the Raymer Way Offsite

contains roosting-foraging habitat for the species. A preliminary survey of potential habitat identified some of the trees with cavities along Morrison Creek as potential hibernacula.

Implementation of the proposed project would require removal of existing structures and trees within the proposed development area. Should special-status bat species be present in structures or trees prior to removal, implementation of the proposed project could result in a loss of individual bats. Therefore, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on pallid bat and western red bat. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.2-8 *Prior to initiation of ground-disturbing activities, the project applicant shall comply with SSHCP AMMs BAT-2 through BAT-4. Winter hibernaculum surveys conducted per BAT-2 shall also include surveying for pallid bat although it is not an SSHCP Covered Species. If winter hibernacula of western red bat or pallid bat are found within the survey area, then BAT-3 through BAT-4 shall be implemented as required based on the results of surveys conducted per BAT-2.*

- ***BAT-2 (Winter Hibernaculum Pre-Construction Surveys):*** *If the Third-Party Project Proponent elects not to avoid potential winter hibernaculum sites within the project footprint plus a 300-foot buffer, additional surveys are required. Prior to any ground disturbance related to Covered Activities, an approved biologist will conduct a pre- construction survey within 3 days of ground-disturbing activities within the project footprint and 300 feet of the project footprint to determine the presence of winter hibernaculum sites. Pre-construction surveys will be conducted during the winter hibernaculum season (November 1 through March 31). If a winter hibernaculum is present, then BAT-3 and BAT-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.*

- ***BAT-3 (Winter Hibernaculum Buffer):*** *If active winter hibernaculum sites are found within the project footprint or within 300 feet of the project footprint, the Third-Party Project Proponent will establish a 300-foot temporary disturbance buffer around the active winter hibernaculum site until bats have vacated the hibernaculum and the Implementing Entity and Wildlife Agencies concur.*

- ***BAT-4 (Bat Eviction Methods):*** *An approved biologist will determine if non-maternity and non-hibernaculum day and*

night roosts are present on the project site. If necessary, an approved biologist will use safe eviction methods to remove bats if direct impacts to non-maternity and non-hibernaculum day and night roosts cannot be avoided. If a winter hibernaculum site is present, Covered Activities will not occur until the hibernaculum is vacated, or, if necessary, safely evicted using methods acceptable to the Wildlife Agencies.

4.2-9 Have a substantial adverse effect, either directly or through habitat modifications, on American badger. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The grassland and wetland areas within the study area provide suitable foraging habitat for American badger according to SSHCP Modeled Species Habitat. Thus, American badger has potential to occur within the study area. Implementation of the proposed project would require disturbance of existing grassland and wetland habitat within the study area. In the event that American badger occupies the project site prior to ground-disturbing activities associated with the proposed project, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on the species. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.2-9 *A qualified biologist shall conduct a preconstruction survey for American badger within 14 days prior to commencement of construction, and results of the survey shall be provided to the City's Community Development Department. If badgers or dens with signs of recent badger use are detected (i.e., fresh scat, claw marks), CDFW shall be consulted and a non-disturbance buffer shall be established around any active dens. The den(s) shall be monitored daily by the qualified biologist during construction. Work shall not occur within the non-disturbance buffer until the qualified biologist determines that the badger(s) have left the work area, or as determined in consultation with CDFW.*

4.2-10 Have a substantial adverse effect on riparian habitat or other sensitive natural community, or State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As noted previously, per the Aquatic Resources Delineation and associated addendum, a total of 4.687 acres of aquatic resources have been mapped on the study

area, including 0.215-acre within the Raymer Way Offsite, which has not been verified (see Table 4.2-1 and Figure 4.2-4). The Rio Del Oro Offsite and North Douglas Offsites do not contain any mapped aquatic resources. The identified features include vernal pool, swale, and stream/creek land cover types. Vernal pool communities are the only sensitive natural community known to occur within the study area. With the exception of the Raymer Way Offsite, the aquatic resources identified within the study area have been verified by the USACE.

Per the Biological Resources Assessment, the vernal pools, swales, and stream/creek features within the study area flow directly or indirectly into Morrison Creek, or impoundments of Morrison Creek, along the northern boundary of the study area. Morrison Creek is a tributary to the Sacramento River. The USACE Sacramento District has identified the Sacramento River as Traditional Navigable Water (TNW). Therefore, the aquatic resources within the study area likely have a significant nexus with a downstream TNW, and are likely subject to regulation under Section 404 of the CWA.

The proposed project would include grading and development activities associated with the construction and operation of a residential subdivision, including necessary off-site improvements. The proposed development footprint would include all 4.687 acres of aquatic resources identified within the study area per the Biological Resources Assessment. Thus, the project would have the potential to involve the disturbance, removal, fill or hydrologic interruption of wetlands or other waters of the U.S or state regulated by the USACE, RWQCB and/or the CDFW.

Based on the above, implementation of the proposed project could have a substantial adverse effect on riparian habitat and/or other sensitive natural communities and/or have a substantial adverse effect on State or Federally protected aquatic resources (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filling, hydrological interruption, or other means. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.2-10(a) *Prior to approval of grading and improvement plans and prior to initiation of any groundbreaking activity associated with the proposed project, the project applicant shall ensure that authorization pursuant to Clean Water Act (CWA) Section 404 from the U.S. Army Corps of Engineers (USACE) and CWA Section 401 from the Central Valley Regional Water Quality Control Board (RWQCB) is obtained. CWA Section 404 authorization is anticipated to be obtained through a Letter of Permission issued by USACE under the SSHCP ARP, and CWA Section 401 authorization is anticipated to be obtained through an individual Water Quality Certification issued by the RWQCB under the SSHCP ARP.*

The construction contractor shall adhere to all conditions outlined in the permits. The project applicant shall ensure that the proposed project replaces, restores, or enhances on a "no net loss" basis (in accordance

with the USACE and the Central Valley RWQCB) the acreage of all wetlands and other waters of the U.S. that would be removed, lost, and/or degraded due to project implementation, either through the SSHCP In-Lieu Fee Program or by other methods agreeable to the 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.

4.2-10(b) *Prior to approval of grading and improvement plans and prior to initiation of any groundbreaking activity associated with the proposed project, the project applicant shall ensure that a CDFW 1602 Streambed Alteration Agreement has been obtained. The construction contractor shall adhere to all conditions outlined in the Streambed Alteration Agreement.*

4.2-10(c) *The project applicant shall comply with SSHCP AMM STREAM-2 and a 100-foot setback from Morrison Creek shall be established. Only allowed compatible uses described in the SSHCP shall be sited within the setback.*

- ***STREAM-2 (UDA Stream Setbacks):** A 100-foot setback measured from the top of the bank on both sides of the stream channel will be applied to all streams listed in Table 5-1 (see Table 4.2-3 below) (see also Figure 2-4 [of the SSHCP]). If a stream reach supports woody riparian vegetation, the setback will be equal to the riparian edge plus 25 feet or will be the setback defined above, whichever is greater. If trails are located within the Stream Setback, the nearest edge of the trail will be located at least 50 feet from the top of the bank.*

Table 4.2-3
Stream Setback Minimum Requirements in the Urban Development Area

Stream	Minimum Setback (from the Top of Bank Measured in Aerial Perspective) on Both Sides of the Stream
Elder Creek	100 feet
Frye Creek	100 feet or as depicted as part of the NewBridge development project hardline Preserve (see SSHCP Appendix K)
Gerber Creek	100 feet
Morrison Creek	100 feet
Central Paseo	100 feet or as depicted as part of the Cordova Hills development project hardline Preserve (see SSHCP Appendix K)
Sun Creek	100 feet or as depicted as part of the Sun Creek development project hardline Preserve (see SSHCP Appendix K)

4.2-10(d) *Implement Mitigation Measure 4.2-2(c).*

4.2-11 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Based on the analysis below, the impact is *less than significant*.

As noted previously, the study area does not fall within an Essential Habitat Connectivity area mapped by the CDFW. In addition, the study area is bordered to the east by Grant Line Road, and the area to the south of the study area is built out with residential uses. Such features limit the ability of wildlife to move through project vicinity. Per the Biological Resources Report, the permanently ponded open waters and the small patches of riparian habitat along the upper reach of Morrison Creek within the Morrison Creek Offsite may represent a marginal wildlife movement corridor. However, consistent with SSHCP AMM STREAM-2, the proposed project would maintain a 100-foot setback from Morrison Creek. Maintenance of the 100-foot setback would be verified through implementation of Mitigation Measure 4.2-9(c). Furthermore, the 185.3 acres of open space area within the northern portion of the site which would not be developed as part of the proposed project. Therefore, implementation of the proposed project would not have the potential to impede the use of a native wildlife nursery site.

Based on the above, the proposed project would not interfere substantially with the movement of any wildlife and a ***less-than-significant*** impact would result.

Mitigation Measure(s)
None required.

4.2-12 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Per Chapter 19.12, Preservation and Protection of Private Trees, of the City of Rancho Cordova Municipal Code, a tree removal permit is required prior to removal of any tree meeting the City's definition of a "protected tree". Protected tree is defined to include native oaks having a truck diameter of six inches or greater, any tree species other than a native oak with a diameter of 12 inches or greater on a nonresidential property, or any tree species other than a native oak with a diameter of 24 inches or greater on a residential property. The study area contains a total of 149 trees that have a dsh equal to or greater than 12 inches and therefore meet the definition of a Protected Tree as defined in the City's Tree Preservation Ordinance.

The proposed project would include the removal of 140 of the existing protected trees within the study area. The nine protected trees within the Morrison Creek Offsite would be preserved as part of the project. Considering that the proposed project would involve removal of 140 individual protected trees, the proposed project could conflict

with local policies and/or ordinances that protect biological resources, including tree resources. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.2-12 *Prior to removal of any protected trees (as defined by Chapter 19.12 of the City's Municipal Code) within the project site and off-site improvement areas, a tree removal permit shall be procured from the City. In addition, tree species that are native to the Central Valley and Sierra Nevada foothills such as interior live oak (Quercus wislizeni), valley oak (Quercus lobata), blue oak (Quercus douglasii), Fremont cottonwood (Populus fremontii), black walnut (Juglans hindsii), and western redbud (Cercis occidentalis) shall be incorporated into the planned landscaping design in public spaces such as open space, parks, and parkways. Enough plantings of such native trees shall be incorporated into the landscaping such that the number of surviving native trees after five years is equal to or greater than the number of non-native trees removed. Landscaping plans detailing the tree species to be planted shall be provided to the City for approval prior to tree removal.*

4.2-13 Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan. Based on the analysis below, the impact is *less than significant*.

The study area is covered by the SSHCP. As described above, the following SSHCP Covered Species have the potential to occur within the proposed development area: Ahart's dwarf rush, midvalley fairy shrimp, Ricksecker's water scavenger beetle, vernal pool fairy shrimp, western spadefoot, western pond turtle, burrowing owl, Swainson's hawk, tricolored blackbird, ferruginous hawk, loggerhead shrike, northern harrier, yellow-billed magpie, American badger, and western red bat. However, implementation of Mitigation Measures 4.2-1, 4.2-2, 4.2-3, 4.2-4, 4.2-5, 4.2-6, 4.2-7, 4.2-8, 4.2-9, which have been designed to incorporate applicable SSHCP AMMs, would reduce potential impacts to such species to less-than-significant levels. In addition, per Mitigation Measure 4.2-2, the project applicant would be required to submit a SSHCP permit application package to the City of Rancho Cordova to request that the incidental take coverage provided by City's SSHCP ITP be extended to the proposed activities. Mitigation Measure 4.2-10 would ensure compliance with applicable SSHCP AMMs related to protection of wetlands.

Based on the above, the proposed project would not conflict with any applicable provisions of the adopted SSHCP, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections of this EIR.

4.2-14 Cumulative loss of habitat for special-status species. Based on the analysis below and with implementation of mitigation, the impact is *less than cumulatively considerable*.

Implementation of the proposed project, in combination with other development within the City of Rancho Cordova, would result in a significant cumulative impact related to the loss of special-status species habitat, as well as take of special-status individuals. The General Plan EIR concluded that buildout of the City's Planning Area, including the study area, would result in the loss of biological resources in the region, and a significant and unavoidable impact would occur.

As discussed above, development of the proposed project could result in potential impacts to biological resources, including special-status plants, special-status wildlife species, riparian habitat and wetlands, and protected trees. However, all such impacts would be reduced to less-than-significant levels with implementation of the mitigation measures provided herein. Such mitigation measures include compliance with SSHCP requirements and all relevant AMMs set forth in the SSHCP Permit to be obtained for the proposed project. Per Mitigation Measure 4.2-2(a), the project applicant would be responsible for paying all SSHCP development fees associated with obtaining permit coverage from the City of Rancho Cordova. Payment of such fees, along with implementation of the SSHCP AMMs, would ensure that the project applicant provides a fair share contribution towards ongoing implementation of the SSHCP, including land and easement acquisition, monitoring, habitat management, habitat establishment, and funding for an agricultural enhancement program.

Nonetheless, without payment of applicable SSHCP fees and implementation of appropriate measures to avoid impacts to biological resources, the proposed project's incremental contribution to the significant cumulative impact to biological resources could be ***cumulatively considerable*** and ***significant***.

Mitigation Measure(s)

This Chapter contains mitigation measure sufficient to reduce all project-specific impacts to less-than-significant levels. With implementation of such measures, the project's incremental contribution toward the significant cumulative impact would be *less than cumulatively considerable*.

4.2-14 Implement Mitigation Measures 4.2-1 through 4.2-11.

4.3 Cultural and Tribal Resources

4.3. CULTURAL AND TRIBAL RESOURCES

4.3.1 INTRODUCTION

The Cultural and Tribal Resources chapter of the EIR addresses known historic and prehistoric cultural resources, including tribal cultural resources, in the vicinity of the project area. Cultural resources can be categorized into prehistoric or historic resources. Prehistoric resources are those sites and artifacts associated with indigenous, non-Euroamerican populations, generally prior to contact with people of European descent. Historic resources include structures, features, artifacts, and sites that date from Euroamerican settlement of the region. The chapter summarizes the existing setting with respect to cultural and tribal cultural resources, identifies thresholds of significance, evaluates project impacts to such resources, and sets forth mitigation measures as necessary. Information presented in the chapter is primarily drawn from the Cultural Resources Inventory Report prepared by ECORP Consulting, Inc. (see Appendix E),[1] as well as the City of Rancho Cordova General Plan[2] and the General Plan EIR.[3]

4.3.2 EXISTING ENVIRONMENTAL SETTING

The Central Valley of California contains a rich cultural resource heritage that includes archeological and historical sites and resources. According to the Rancho Cordova General Plan EIR, as of March 2006, a total of 23 historic resources, eight prehistoric sites, and one prehistoric/historic site were recorded in the City of Rancho Cordova. Given the rich heritage of the area, many archeological and historical sites and resources remain undiscovered.

The 279.3-acre project site contains two single-family residences and associated outbuildings on the southern portion of the site, within parcels 072-0300-002 and -005. An orchard is located within the northeastern portion of the site within and parcel 073-0010-011, and a third single-family residence and associated outbuildings are located on APN 072-0300-008. The remainder of the site consists primarily of non-native grasses, with scattered trees located in the vicinity of the existing residences and associated access roads. The site is characterized by moderate rolling hills and flatlands interspersed with seasonal drainage corridors and wetlands. Additionally, Morrison Creek runs northeast to southwest through the project site. The project site is located near the North Douglas Residential development to the south, as well as agricultural land and rural residential areas to the north, west, and east.

The following sections provide further details regarding the prehistoric overview, ethnographic overview, and historic overview of the project area, as well as a description of any identified cultural resources associated with the project site and a discussion of tribal cultural resources.

Prehistoric Overview

A recent summary by Rosenthal et al. of the prehistory of California's Sacramento Valley, Sacramento–San Joaquin Delta, and San Joaquin Valley is based on a compilation of previous

[1] ECORP Consulting, Inc. *Cultural Resources Inventory Report.* February 5, 2019.
[2] City of Rancho Cordova. *Rancho Cordova General Plan*. June 26, 2006.
[3] City of Rancho Cordova. *Rancho Cordova General Plan EIR*. March 13, 2006.

research. As devised by Rosenthal and others, and with the timeframes adjusted for modern calibration curves for radiocarbon dates, the chronological sequence for the Central Valley is: Paleo-Indian (11500 to 8550 cal [calibrated] B.C.), Lower Archaic (8550 to 5550 cal B.C.), Middle Archaic (5550 to 550 cal B.C.), Upper Archaic (550 cal B.C. to cal A.D. 1100), and Emergent or Late Prehistoric Period (cal A.D. 1100 to Historic Contact).

Paleo-Indian Period

The Paleo-Indian Period began when the first people started to inhabit what is now known as the California culture area. During the Paleo-Indian Period, the first people commonly survived on big game and minimally processed foods, (i.e., hunters and gatherers), presumably without trade networks. More recent research indicates these people may have been more sedentary, relying on processed foods and trade. Populations likely consisted of small groups traveling frequently to access plant and animal resources.

Archaic Period

The Archaic Period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and an increase in trade network complexity. The period includes the three divisions outlined below.

Lower Archaic Period

In the Central Valley, the Lower Archaic Period is mainly represented by isolated finds, as the early landscape was buried by natural alluvial fan and floodplain deposition. Artifacts from this period include chipped stone crescents, early wide-stemmed points, marine shell beads, eastern Nevada obsidian, and obsidian from north Coast Ranges. The artifacts found on sites dating to the Lower Archaic Period indicate that trade was occurring in multiple directions. Communities relied on a variety of plant and animal species, including acorns, wild cucumber, and manzanita berries.

Middle Archaic Period

The Middle Archaic Period is characterized by a drier climate period. Past studies of the Middle Archaic Period have identified two distinct settlement/subsistence patterns: The Foothill Tradition and the Valley Tradition. Functional artifact assemblages consisting primarily of locally sourced flaked stone and groundstone cobbles characterize the Foothill Tradition, while the Valley Tradition was generally characterized by diverse subsistence practices and extended periods of sedentism.

Upper Archaic Period

The Upper Archaic Period is characterized by abrupt change to wetter and cooler environmental climate conditions. Much greater cultural diversity is evident from this period. More specialized artifacts, such as bone tools, ceremonial blades, polished and groundstone plummets, saucers, saddle Olivella shell beads, Haliotis shell ornaments, and a variety of groundstone implements are characteristic of this period.

Emergent Period

The Emergent Period is most notably marked by the introduction of the bow and arrow, the emergence of social stratification linked to wealth, and expansive trade networks. The Augustine pattern (the distinct cultural pattern of the Emergent Period) is characterized by the appearance of small projectile points (largely obsidian), rimmed display mortars, flanged steatite pipes, flanged

pestles, and chevron-designed bird-bone tubes. Large mammals and small seeded resources appear to have made up a larger part of the diet during this period.

The Windmiller Pattern of the Early Horizon, dates to the Middle Archaic and may be the most extensively studied of all the cultural patterns defined for the Central Valley. In fact, the similarity noted between elements of Windmiller and materials from other sites may have been the catalyst for early archaeologists identifying the material cultural "blending" of groups in the Central Valley during this period.

Further classification of the Middle Archaic into the Foothill Tradition and Valley Tradition helped to clarify the different types of cultural sequences which occurred during the time periods. Functional artifact assemblages consisting primarily of locally sourced flaked-stone and groundstone cobbles characterize the Foothills Tradition, with very few trade goods. Sites that represent the Valley Tradition are much fewer in number, and are generally characterized by much more diverse subsistence practices and extended periods of sedentism. Specialized tools, trade goods, and faunal refuse that indicate year-round occupation are evident on sites of the Valley Tradition. Distinct artifacts attributed to this tradition include one of the oldest dated shell bead lots in central California (4160 BP) and a particular type of pestle used with a wooden mortar. Paleobotanical analysis from sites of the Foothill Tradition confirm that acorns and pine nuts were preferred for subsistence. Sites in the project area associated with the Valley Tradition are rare in the early Middle Archaic but include the Reservation Road site, and two buried sites in the northern Diablo range. Sites associated with later portions of the Middle Archaic (post-2050 cal. BC) in the project area include elaborate material culture and diverse dietary and technological assemblages.

The next era in the region is identified as the Late Horizon, the Hotchkiss Culture, and the Augustine Pattern. The culture was formed by populations during the later Upper Archaic and Emergent periods, and ranges in age from around 550 cal. BC to contact (dates vary between the different models of prehistory developed for the region). The Upper Archaic, as discussed above, corresponds with the late Holocene change in environmental conditions to a wetter and cooler climate. The Emergent Period and Late Horizon are markedly represented by the introduction of bow-and-arrow technology, as well as more pronounced cultural diversity reflected in burial posturing, artifact styles, and material culture. Cultural patterns for this era are represented in the northern Sacramento Valley, namely within the Whiskeytown Pattern.

Despite the varying designations, this Emergent era is distinguished in the archaeological record by intensive fishing, extensive use of acorns, elaborate ceremonialism, social stratification, and cremation of the dead. Artifacts associated with the defined patterns (Augustine, Emergent, Hotchkiss) include bow-and-arrow technology (evidenced by small projectile points), mortars and pestles, and fish harpoons with unilaterally or bilaterally placed barbs in opposed or staggered positions. Mortuary patterns include flexed burials and cremations, with elaborate material goods found in association with prestigious individuals. A local form of pottery, Cosumnes brown ware, emerged in the lower Sacramento Valley. Sites contain this ceramic type in their artifact assemblage, as well as human animal effigies which are also a marker of this Emergent era around the project area.

Ethnographic Overview

Ethnographically, the project area is in the southwestern portion of the territory occupied by the Penutian-speaking Nisenan. Nisenan inhabited the drainages of the Yuba, Bear, and American

rivers, and also the lower reaches of the Feather River, extending from the east banks of the Sacramento River on the west to the mid to high elevations of the western flank of the Sierra Nevada to the east. The territory extended from the area surrounding the current City of Oroville on the north to a few miles south of the American River in the south. The Sacramento River bounded the territory on the west, and in the east, the territory extended to a general area located within a few miles of Lake Tahoe.

Nisenan practiced seasonal migration, a subsistence strategy involving moving from one area or elevation to another to harvest plants, fish, and hunt game across contrasting ecosystems that were in relatively close proximity to each other. Valley Nisenan generally did not range beyond the valley and lower foothills, while foothill and mountain groups ranged across a more extensive area. The area included jointly shared territory whose entry was subject to traditional understandings of priority of ownership and current relations between the groups.

Communally organized Nisenan task groups exploited a wide variety of resources. Communal hunting drives were undertaken to obtain deer, quail, rabbits, and grasshoppers. Bears were hunted in the winter when their hides were at their best condition. Runs of salmon in the spring and fall provided a regular supply of fish, while other fish such as suckers, pike, whitefish, and trout were obtained with snares, fish traps, or with various fish poisons such as soaproot. In addition, birds were caught with nooses or large nets, and were also occasionally shot with bow and arrow.

Like the majority of Native Californians, the Nisenan relied on acorns as a staple food, which were gathered in the fall and stored in granaries for use during the rest of the year. Although acorns were the staple of the Nisenan diet, the Nisenan also harvested roots like wild onion and “Indian potato,” which were eaten raw, steamed, baked, or dried and processed into flour cakes to be stored for winter use. Buckeye, pine nuts, hazelnuts, and other edible nuts further supplemented the diet. Key resources such as acorns, salmon, and deer were ritually managed through ceremonies to facilitate successful exploitation and equitable distribution of resources.

Nisenan groups managed many wild plants, primarily by controlled burning, which removed underbrush and encouraged growth of edible grasses, seed producing plants, and other useful plant resources (e.g., basketry materials). The use of fire for environmental modification and as an aid in hunting is frequently mentioned in the ethnographic literature relating to the Nisenan. In addition to removing underbrush, improving travel conditions, and facilitating plant growth, burning may also have improved areas of deer forage, potentially altering migratory patterns of deer populations by lessening their need to seek fresh forage on a seasonal basis.

The Nisenan experienced early contact with Spanish explorers arriving on the Central Coast of California in 1769. Much of the early contact with the Spanish explorer was limited to the peripheries of Nisenan territory, occurring mainly to the south on the lands of the Miwok, which had been explored by Jose Canizares in 1776, with only ephemeral explorations into Nisenan lands. Nisenan groups are not known to have been removed to missions; however, the Nisenan did receive escapees from the missions as well as pressure of displaced Miwok populations on their southern borders.

In 1833, a deadly epidemic (probably malaria) swept through the Sacramento Valley and had a devastating effect on Nisenan populations. Entire villages were lost, and surviving Nisenan retreated into the hills. An estimated 75 percent of the Nisenan population was wiped out, and only a handful were left to face the gold miners and settlers who were soon to follow. Captain

John Sutter settled in Nisenan territory in 1839, and through force and persuasion he coerced most of the remaining Valley Nisenan to be on peaceful terms.

The mountain Nisenan groups encountered Europeans in their territory, but were not adversely affected by the epidemics and early settlers. The discovery of gold, however, led to the Nisenan territory being overrun within a matter of a few years. The 1848 gold discovery was in the middle of Nisenan territory, and thousands of miners were soon living in the area. This dynamic led to widespread killing, destruction, and persecution of the Nisenan and their culture. The few survivors were relegated to working in agriculture, logging, ranching, or domestic pursuits. A native culture resurgence occurred around 1870 with influence from the Ghost Dance revival, but by 1890s the movement had all but ended in dissolution.

A few people still practiced Nisenan customs through the turn of the twenty-first century, but the old ways have been largely lost. Despite the hardships on their people through the past few centuries, many modern Native American populations participate in pan-Indian activities and celebrations. Nisenan descendants continue to be active in social movements and organizations that seek to improve the Native American situation in the dominant America culture.

Historic Overview

The following sections provide an overview of the Spanish, Mexican, and American Periods, as well as local history associated with the project area.

Spanish, Mexican, and American Periods

Post-contact history for the State of California is generally divided into the following three periods: the Spanish Period from 1769 to1822; the Mexican Period from 1822 to1848; and the American Period from 1848 to present. Although brief visits by Spanish, Russian, and British explorers occurred from 1529 to 1769, the beginning of Spanish settlement in California occurred in 1769 at San Diego. The Spanish and Franciscan Order established 21 missions between 1769 and 1823 along the coast between San Diego and San Francisco. The Spanish expeditions into the Central Valley in 1806 and 1808, led by Lieutenant Gabriel Moraga, explored along the main rivers, including the American, Calaveras, Cosumnes, Feather, Merced, Mokelumne, Sacramento, San Joaquin, and Stanislaus. Moraga is credited with naming the lower Sacramento River and valley region, “Sacramento” (“the Holy Sacrament”). In 1813, Moraga led another expedition in the lower portion of the Central Valley and named the San Joaquin River. The abundance of wildlife, such as waterfowl, fish, and fur-bearing animals, within or along the banks of the rivers attracted immigrants to the Central Valley region. The last Spanish expedition into California’s interior was led by Luis Arguello in 1817 and traveled up the Sacramento River, past the future site of the City of Sacramento to the mouth of the Feather River, before returning to the coast.

After the end of the Mexican Revolution (1810 to 1821), the Mexican Period is marked by extensive land grants, most of which were in the interior of the State, as well as by exploration by American fur trappers west of the Sierra Nevada Mountains. Most of the land grants to Mexican citizens in California (*Californios*) were in the interior because the Mexican Republic sought to increase the population away from the more settled coastal areas where the Spanish settlements had been concentrated. The largest land grants in the Sacramento Valley were awarded to John Sutter, who had become a Mexican citizen. In 1839, he founded a trading and agricultural empire called New Helvetia that was headquartered at Sutter’s Fort near the divergence of the Sacramento and American rivers in today’s City of Sacramento. Only a small portion of the

48,839-acre New Helvetia land grant was located in Sacramento County; the majority was located in today's Sutter and Yuba counties on the east and west sides of the Feather River.

The first American trapper to enter California, Jedediah Smith, explored along the Sierra Nevada in 1826 and in 1827, entered the Sacramento Valley, traveling along the American and Cosumnes rivers. In 1827, Smith also traveled through the San Joaquin Valley. Other trappers soon followed, including employees of the Hudson's Bay Company in 1832. Between 1830 and 1833, and again in 1837, diseases introduced by the non-indigenous explorers, trappers, and settlers, as well as relocation to the missions, military raids, and settlement by non-native groups, decimated native Californian populations, communities, and tribes in the Sacramento and San Joaquin valleys.

The end of the Mexican-American war, marked by the signing of the Treaty of Guadalupe Hidalgo in 1848, initiated the beginning of the American Period. In the same year, gold was discovered at Sutter's Mill on the American River in Coloma, and by 1849, nearly 90,000 people had journeyed to the gold fields. California became the 31st state in 1850, largely as a result of the Gold Rush, and in 1854, Sacramento became the State capital. In contrast to the economic prosperity and population growth associated with statehood, the loss of land and territory, including traditional hunting and gathering locales, as well as malnutrition, starvation, and violence, further contributed to the decline of indigenous Californians in the Central Valley and along the Sierra Nevada foothills.

Local History

The City of Rancho Cordova was incorporated in July 2003 with the desire for local government control over land uses and services. The City is centrally located in the Sacramento region with a strong workforce and growing population. The project area is located in the southeastern part of the 35,500-acre Rancho Rio de los Americanos land grant, issued by Manuel Micheltorena, the Mexican Governor of Alta California, to William Alexander Leidesdorff in October 1844. Leidesdorff acquired land for herding cattle on the bank of the American River. Following the death of Leidesdorff in 1848, his land was bought by Joseph Libby Folsom for $75,000. Folsom founded the town of Granite City on the land grant before the town was eventually renamed to Folsom after his death in 1855.

Later, the Natoma Water and Mining Company purchased more than 9,000 acres of the Rancho Rio de los Americanos land grant in 1857. At this point, with Mr. Folsom being deceased, the property was handled by Mr. Folsom's executors, a Mr. Halleck, and others. In 1857 the Surveyor General of the United States, John Coffee "Jack" Hays, ordered that the grant be surveyed, and the boundaries established. This survey, known as the Hays survey, was submitted to the Land Office in Washington for a patent. Disagreements within the Land Office over the survey results led to a second survey, known as the Mandeville survey, in 1858. In 1860, a legal battle ensued over which survey boundary was correct with the court upholding the boundaries of the Hays survey. Three years later an appeal was approved challenging the earlier ruling and upholding the Mandeville survey. The area owned by the Natomas Company (north of the project area) was later used for dredge mining and this area is now covered by dredge mining tailings.

Grant Line Road is a secondary road which, for much of its length, follows the boundaries of the Rancho Omochumnes and Rancho Rio de los Americanos Mexican land grants. The Rancho Omochumnes land grant is located south of the project area, containing more than 18,000 acres. The land was centered around the modern town of Wilton and along the south bank of the Cosumnes River. The portion of Grant Line Road that stretches from Jackson Road to Kiefer

Boulevard follows the northwestern boundary of the Rancho Omochumnes land grant. Grant Line Road follows this eastern boundary of the land grant for a short distance diagonally to the northeast until the road merges with the meandering White Rock Road. The precise date of construction of Grant Line Road is unclear, but unlabeled roads that appear to follow a similar alignment are partially present on the 1891 USGS Sacramento 1:125,000 scale topographical map.

Known Historic Resources

Archival research was carried out as part of the Cultural Resources Inventory Report prepared for the proposed project by ECORP Consulting, Inc., including review of available historic documents and a records search. On October 11, 2018, ECORP conducted a records search of the North Central Information Center (NCIC) of the California Historical Resources Information System (CHRIS) at California State University, Sacramento. In addition, ECORP conducted a field survey of the project area on October 15 and 16, 2018. As shown in Figure 4.3-1, the field survey covered an approximately 99.37-acre Area of Potential Effects (APE). The APE does not include the northern portion of the project site, which would not be developed as part of the proposed project. In addition, the APE for the field survey does not include the off-site improvements areas associated with the project. However, the off-site improvement areas were included in the records search conducted by ECORP.

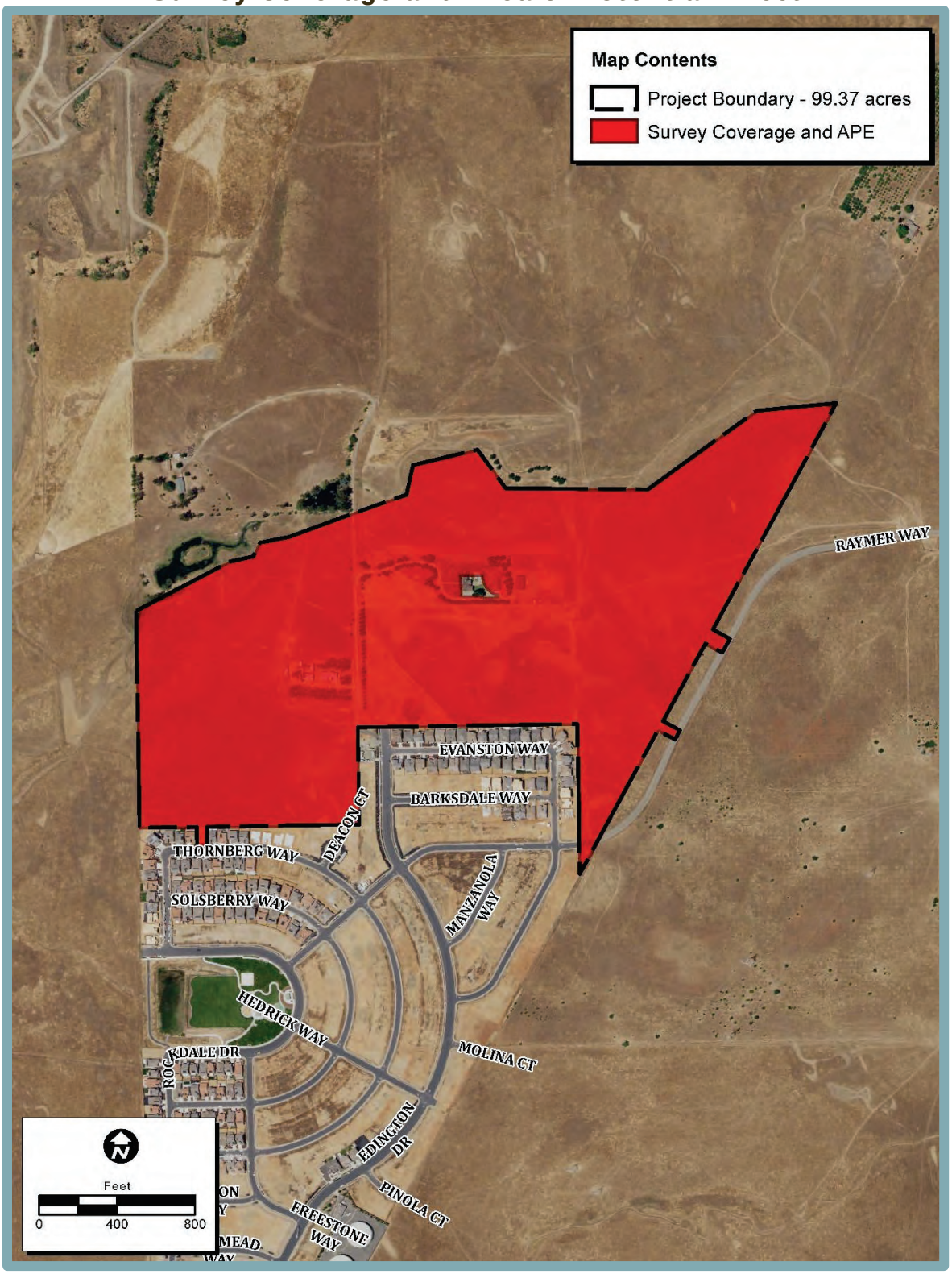
The records search determined that 13 cultural resource investigations have been conducted within 0.5-mile of the APE between 1982 and 2016, covering approximately 50 percent of the total area surrounding the APE within the record search radius. A total of three previously recorded historic-period cultural resources are located within 0.5-mile of the APE, consisting of the American River Mining District (P-34-335, CA-SAC-308), the Douglas Missile Test Facility (P-34-4137), and a historic dredge tailing landscape (P-34-4143). The American River Placer Mining District encompasses the APE; however, features associated with the district have not been identified within the APE. The remaining two resources (P-34-4137 and P-34-4143) are not located within the APE and, thus, are not discussed further. According to the Cultural Resources Inventory Report, the field survey did not find any previously recorded or new cultural resources within the APE.

American River Placer Mining District

The American River Placer Mining District (P-34-335) is considered a “Super District” that includes districts such as the Alder Creek Corridor Mining District, Prairie Diggings Mining District, and others which were originally grouped together arbitrarily to ensure proper consideration during a pulse of development in the region. The American River Placer Mining District includes thousands of acres of land that were subject to mining by hand and mechanical methods. The District also includes mining camps, established towns, cemeteries, tunnels, adits, water diversion systems, pump plant remains, and other features associated with dredging.

The American River Placer Mining District is referred to informally as a “paper district,” meaning that the designation as a “district” does not necessarily meet the technical or regulatory definition of the term. In addition, the American River Placer Mining District boundaries are arbitrarily set, encompassing an area approximately 15 miles long and 11 miles wide.

Figure 4.3-1
Survey Coverage and Area of Potential Effect



Source: ECORP Consulting, Inc., 2019

Tribal Cultural Resources

Based on a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF), as described in further detail in the Method of Analysis section below, recorded Native American sacred sites or traditional cultural properties are not known to exist within the project site.

4.3.3 REGULATORY CONTEXT

Federal, State, and local governments have developed laws and regulations designed to protect significant cultural resources that may be affected by actions that they undertake or regulate. The following section contains a summary of basic federal, State, and local regulations governing preservation of historic and archaeological resources of national, regional, State, and local significance.

Federal Regulations

The following are the federal environmental laws and policies relevant to cultural resources.

National Historical Preservation Act of 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the National Historical Preservation Act (NHPA) of 1966. Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the National Register of Historic Places (NRHP). The criteria for determining NRHP eligibility are found in 36 CFR Part 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or uses federal funding.

National Register of Historic Places

NRHP is the nation's master inventory of known historic resources. The NRHP includes listings of resources, including: buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, State, or local level. Resources over 50 years of age may be listed on the NRHP. However, properties under 50 years of age that are of exceptional significance or are contributors to a district may also be included on the NRHP. Four criteria are used to determine if a potential resource may be considered significant and eligible for listing on the NRHP. Potentially eligible resources include resources that:

A. Are associated with events that have made a significant contribution to the broad patterns of history; or
B. Are associated with the lives of persons significant in our past; or
C. 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. Have yielded or may likely yield information important in prehistory or history.

A resource can be individually eligible for listing on the NRHP under any of the above four criteria, or can be listed as contributing to a group of resources that are listed on the NRHP.

A resource can be considered significant in American history, architecture, archaeology, engineering, or culture. Once a resource has been identified as significant and potentially eligible for the NRHP, the resource's historic integrity must be evaluated. Integrity is a function of seven factors: location, design, setting, materials, workmanship, feeling, and association. The factors closely relate to the resource's significance and must be intact for NRHP eligibility.

Historical buildings, structures, and objects are usually eligible under Criteria A, B, and C based on historical research and architectural or engineering characteristics. Archaeological sites are usually eligible under Criterion D, the potential to yield information important in prehistory or history. An archaeological test program may be necessary to determine whether the site has the potential to yield important data. The lead federal agency makes the determination of eligibility based on the results of the test program and seeks concurrence from the State Historic Preservation Officer (SHPO).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an 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.

State Regulations

The following are the State environmental laws and policies relevant to cultural resources.

California Environmental Quality Act and California Register of Historic Places

State historic preservation regulations affecting this project include the statutes and guidelines contained in CEQA (Public Resources Code [PRC] Sections 21083.2 and 21084.1 and sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA requires lead agencies to consider the potential effects of a project on historic resources and unique archaeological resources. A "historic resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (PRC Section 5020.1). Under Section 15064.5 of the CEQA Guidelines, a resource is considered "historically significant" if one or more of the following California Register of Historic Resources (CRHR) criteria have been met:

1. The resource is associated with events that have made a significant contribution to the broad patterns of California history;
2. The resource is associated with the lives of important persons from our past;
3. The resource 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
4. The resource has yielded, or may be likely to yield, important information in prehistory or history.

In addition, the resource must retain integrity. Cultural resources determined eligible for the NRHP by a federal agency are automatically eligible for the CRHR.

CEQA requires preparation of an EIR if a proposed project would cause a "substantial adverse change" in the significance of a historical resource. A "substantial adverse change" would occur if a proposed project would result in physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines Section 15064.5[b][1]).

In addition to historically significant resources, which can include archeological resources that meet the criteria listed above, CEQA also requires consideration of "unique archaeological resources." If a site meets the definition of a unique archaeological resource, the site must be treated in accordance with the provisions of PRC Section 21083.2. Under PRC Section 20183.2(g), an archaeological resource is considered "unique" if it:

1) Is associated with an event or person of recognized significance in California or American history or recognized scientific importance in prehistory;
2) Can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
3) Has a special kind or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4) Is at least 100 years old and possesses substantial stratigraphic integrity; or
5) Involves important research questions that can be answered only with archaeological methods.

CEQA also includes specific guidance regarding the accidental discovery of human remains. Specifically, CEQA Guidelines Section 15064.5(e) requires that if human remains are uncovered, excavation activities must be stopped and that the county coroner be contacted. If the county coroner determines that the remains are Native American, the coroner must contact the NAHC within 24 hours. The NAHC identifies the most likely descendant, and that individual or individuals can make recommendations for treatment of the human remains under the procedures set forth in Section 15064.5 of the CEQA Guidelines.

The SHPO maintains the CRHR. Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Assembly Bill 52

Assembly Bill (AB) 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources" are defined as either:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
    (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the

purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Under AB 52, a project that may cause a substantial adverse change in the significance of a Tribal Cultural Resource is defined as a project that may have a significant effect on the environment. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact. AB 52 (PRC 21080.3.1) requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe(s) requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe(s). Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe(s).

Senate Bill 18

SB 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes, when amending or adopting a general plan or specific plan, or designating land as open space, in order to aid in the protection of traditional tribal cultural places ("cultural places"). The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code Section 65300 et seq.) and specific plans (defined in Government Code Section 65450 et seq.). The proposed project includes a General Plan Amendment, and, thus, is subject to SB 18 consultation requirements.

Local Regulations

The following are the local environmental laws and policies relevant to cultural resources.

City of Rancho Cordova General Plan

Goals and policies from the City's General Plan related to cultural resources are presented below.

Goal CHR.1: Identify and preserve the history of Rancho Cordova for future generations.

Policy CHR.1.3 Establish review procedures for development projects that recognize the history of the area in conjunction with State and federal laws.

South Sacramento Habitat Conservation Plan

The South Sacramento Habitat Conservation Plan (SSHCP) is intended to streamline federal and State permitting processes for SSHCP-covered development and infrastructure projects while protecting habitat, open space and agricultural lands.[4] The SSHCP plan area encompasses 317,656 acres that are bordered by US. Route 50 (US 50) on the north, San Joaquin County on

[4] South Sacramento Habitat Conservation Plan. *What is the South Sacramento HCP?* Available at: https://www.southsachcp.com/. Accessed July 2019.

the south, El Dorado County and Amador County to the east, and the Sacramento River to the west, including Galt and most of Rancho Cordova. The Rancho Cordova City Council adopted the SSHCP on October 15, 2018.

The SSHCP includes a specific process for permit applications which outlines requirements that must be satisfied by a project proponent prior to receiving permit coverage. A project proponent of a ground-disturbing activity, including habitat re-establishment or establishment in the Preserve System, must ensure that cultural resources potentially occurring in these areas are properly evaluated and protected. Per Section 10.4.2.7 of the SSHCP, permit applications are required to include a description of how the project complies with requirements for protection of cultural resources and tribal consultation.

4.3.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to cultural and tribal cultural resources. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, an impact related to cultural or tribal cultural resources is considered significant if the proposed project would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines, Section 15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries; and/or
- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC, Section 21074.

Method of Analysis

The analysis presented within this chapter is based primarily on the Cultural Resources Inventory Report prepared for the proposed project. The Cultural Resources Inventory Report included a cultural resources literature search, archival research, consultation with the NAHC, and a field survey. The methods of analysis are described in further detail below, along with a discussion of the tribal consultation efforts conducted by the City pursuant to AB 52 and SB 18.

Records Search Methods

A cultural resources records search for the project area was completed at the NCIC of the CHRIS at California State University, Sacramento, on October 11, 2018. The records search was conducted to determine the extent of previous surveys within 0.5-mile radius of the proposed project location, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within the area. The archival searches of the archaeological and historical records, national and State databases, and historic maps included the following:

- California Register of Historical Resources;
- National Register Information System website;
- Historic Property Data File (HPDF) for Sacramento County (OHP 2012);
- California Inventory of Historical Resources (National Park Service 2018);
- Office of Historic Preservation, California Historical Landmarks website (OHP 2018);
- California Historical Landmarks (OHP 1996 and updates);
- California Points of Historical Interest (OHP 1992 and updates);
- Directory of Properties in the Historical Resources Inventory (1999);
- Caltrans Local and State Bridge Surveys (Caltrans 2018a and 2018b); and
- Historic Spots in California (Kyle 2002).

Other Cultural Archival Sources

ECORP searched the land patent records maintained by the Bureau of Land Management and reviewed historical maps and aerial photographs that were not available at the NCIC. The results of the reviews of historic maps and aerial photographs have been incorporated into the Local History section above. The following historic maps and aerial photographs were reviewed:

- 1856 GLO Plat for Township 8 North, Range 7 East;
- 1885 Official Map of Sacramento County;
- 1892 and 1929 USGS California, Sacramento Sheet (1:125,000);
- 1908 and 1916 USGS Buffalo Creek, California (scale 1:31,680);
- 1954 and 1967 USGS Buffalo Creek, California (7.5-minute); and
- 1967 photo revised 1980 USGS Buffalo Creek, California (7.5-minute).

In addition, ECORP contacted the NAHC on October 16, 2018 to request a search of the SLF to determine whether known tribal cultural resources are located within or near the project area. The SLF is populated by members of the Native American community who have knowledge about the locations of tribal resources. In requesting a search of the SLF, ECORP solicited information from the Native American community regarding tribal cultural resources; however, the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable State and federal law. A discussion of formal tribal outreach efforts conducted by the City pursuant to AB 52 and SB 18 is provided below.

Field Survey Methods

On October 15 and 16, 2018, ECORP subjected the project APE to an intensive-level pedestrian survey using transects spaced at 15 meters. The entirety of the visible ground surface within the project area was examined for indications of surface or subsurface cultural resources, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits. Subsurface investigations or artifact collections were not undertaken during the pedestrian survey.

Native American Tribal Consultation

In compliance with AB 52 (PRC Section 21080.3.1) and SB 18, project notification letters were distributed to the appropriate tribes in the project area. On October 29, 2019, the City sent AB 52 letters with offers to consult to the following tribes: Buena Vista Rancheria of Me-Wuk Indians, Colfax-Todds Valley Consolidated Tribe, Ione Band of Miwok Indians, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Shingle Springs Band of Miwok Indians, Tsi Akim Maidu, United

Auburn Indian Community of the Auburn Rancheria, and the Wilton Rancheria. The City received a response from the Wilton Rancheria on November 19, 2019, requesting formal consultation under AB 52 and to observe and participate in all cultural resource surveys, including initial pedestrian surveys for the project. Wilton Rancheria also requested copies of all environmental documentation for the proposed project related to cultural resources.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.3-1 Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5. Based on the analysis below, the impact is *less than significant*.

The proposed project would include subdivision of the project site to develop a total of 440 single-family lots and various associated improvements including, but not limited to, parks, open space areas, landscaping, circulation improvements, and utility installation. The proposed project would also include the demolition of existing on-site residences and associated outbuildings. However, in order to determine whether the residences and associated outbuildings are considered historically significant, the structures were evaluated using the NRHP and the CRHR eligibility criteria. In order to be listed on the NRHP or CRHR, the resource must be at least 50 years old, except in exceptional circumstances. The existing buildings to be demolished are less than 50 years old. Given that the existing structures are less than 50 years old, the existing structures within the site would not be considered eligible for listing under the NRHP or CRHR. In addition, according to the Cultural Resources Inventory Report, previously recorded or new cultural resources were not identified within the project site. Thus, the proposed project would not result in a substantial adverse change in the significance of a historical resource.

As part of the Cultural Resources Report, ECORP requested a records search of the CHRIS. The CHRIS search results indicate that boundaries of the American River Placer Mining District encompass the project's APE. Past studies have recommended that the American River Placer Mining District be considered eligible for the NRHP or the CRHR. An inquiry was made as to whether the California SHPO concurs with this eligibility finding; however, evidence of concurrence has not been found to date. Nevertheless, for the purposes of this analysis, the American River Placer Mining District is considered eligible for the NRHP and CRHR. However, physical features of the American River Placer Mining District do not exist within the project APE. Therefore, the proposed project would not alter, directly or indirectly, the integrity of any characteristics of the American River Placer Mining District that make the resource significant. As such, the proposed project would not result in a substantial adverse change in the significance of the American River Placer Mining District.

Based on the above, the existing structures on the project site would not be considered eligible for listing under the NRHP or CRHR. In addition, the proposed project would not adversely affect the historical significance of the American River Placer Mining District, which encompasses the project APE. Therefore, the proposed project would

not result in a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.3-2 Cause a substantial adverse change in the significance of a unique archeological resource pursuant to CEQA Guidelines, Section 15064.5 or disturb human remains, including those interred outside of dedicated cemeteries. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As part of the cultural resource investigation of the project site, ECORP conducted a pedestrian field survey, which did not reveal any evidence of archaeological resources. Given the project site's history of disturbance through agricultural use, as well as the grading and construction of roadways and residences in the area, the potential for buried archeological deposits to occur in the sediments underlying the project site is low. However, due to the presence of alluvium along Morrison Creek, and the likelihood of pre-contact archaeological sites to be located along waterways, the potential exists for previously unknown archaeological resources to exist in the project area.

In addition, the project area is in the southwestern portion of the territory once occupied by the Penutian-speaking Nisenan. While field surveys conducted by ECORP did not detect human remains, cultural sites, or artifacts of ceremonial significance within the project site, the potential for human remains to be discovered during construction cannot be eliminated due to the known prehistoric occupation of the project area by Native American tribes.

Although archeological resources have not been identified on the project site and, due to past ground disturbance, are not anticipated to occur, the possibility exists that previously unknown resources could be discovered within the project site or off-site improvement areas during construction activities. Therefore, construction activities associated with buildout of the proposed project, including off-site improvements, could uncover undocumented archaeological resources and/or human remains. As such, the proposed project could cause a substantial adverse change in the significance of a unique archeological resource pursuant to CEQA Guidelines, Section 15064.5 or disturb human remains, including those interred outside of dedicated cemeteries, and a ***significant*** impact could occur.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.3-2 The following requirements shall be included through a notation on all project improvement plans prior to the issuance of grading permits, to the satisfaction of the City Engineer.

In the event subsurface deposits believed to be cultural or human in origin are discovered during construction, all work shall halt within a 50-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for precontact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- *If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and agency notifications are not required.*
- *If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the City of Rancho Cordova and applicable landowner. The project applicant shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Appropriate treatment measures that preserve or restore the character and integrity of a find may be, but are not limited to, processing materials for reburial, minimizing handling of historical objects, leaving objects in place within the landscape, construction monitoring of further construction activities, and/or returning objects to a location within the project area where they will not be subject to future impacts. Work shall not resume within the no-work radius until the applicant, through consultation, as appropriate, determines that the site either: 1) is not a historical resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to the City's satisfaction.*
- *If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the City of Rancho Cordova and the Sacramento County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 shall be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner shall notify the NAHC, which then shall designate a Native American Most Likely Descendant (MLD) for the proposed project (Section 5097.98 of the PRC). The designated MLD shall have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC shall mediate (Section 5097.94 of the PRC). If an agreement is not reached, the landowner shall rebury the remains where they shall not be further disturbed*

(Section 5097.98 of the PRC). The burial shall also include either recording the site with the NAHC or the appropriate information center, using an open space or conservation zoning designation or easement, or recording a reinternment document with Sacramento County (AB 2641). Work shall not resume within the no-work radius until the City, through consultation as appropriate, determines that the treatment measures have been completed to their satisfaction.

4.3-3 Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As part of AB 52 and SB 18 requirements, the City sent project notification letters with offers to consult to the necessary tribes in the project area on October 29, 2019. The City received a response from the Wilton Rancheria requesting formal consultation to observe and participate in all cultural resource surveys, including initial pedestrian surveys for the project. Wilton Rancheria also requested copies of all environmental documentation for the proposed project related to cultural resources.

As noted previously, records searches of the NAHC SLF did not indicate the presence of tribal cultural resources within the project site or the off-site improvement areas. Considering the results of the literature search and the prehistory and history of the area, the project site was determined by ECORP to have a low probability for prehistoric or historic cultural resources, which would include tribal cultural resources. Nonetheless, even though the likelihood is low, the possibility still exists that buried tribal cultural resources associated with local tribes could occur in the project site and the off-site improvement areas. Thus, ground-disturbing activities associated with the proposed project could cause a substantial change in the significance of a Tribal Cultural Resource as defined in PRC Section 21074, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.3-3(a) Implement Mitigation Measures 4.3-2.

4.3-3(b) Prior to initiation of ground-disturbing activities associated with the proposed project, a consultant and construction worker tribal cultural resources awareness brochure and training program for all personnel involved in project implementation shall be developed in coordination with interested Native American Tribes. The brochure shall be distributed and the training shall be conducted in coordination with qualified cultural resources specialists and Native American Representatives and Monitors from culturally affiliated Native American Tribes before any stages of project implementation and construction activities begin on the project site. The program shall include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for

avoidance, and consequences of violating State laws and regulations. The worker cultural resources awareness program shall also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and shall outline what to do and whom to contact if any potential tribal cultural resources are encountered. The program shall also underscore the requirement for confidentiality and culturally-appropriate treatment of any find of significance to Native Americans and behaviors, consistent with Native American Tribal values. Documentation of the brochure and training program (i.e., a sign-in sheet) shall be submitted along with all applicable reports to the City's Community Development Department.

4.3-3(c) Prior to the start of ground-disturbing activities associated with the proposed project, the project applicant and construction contractor(s) shall implement the following measures to minimize the potential for destruction of or damage to existing or previously undiscovered burials, archaeological, and tribal cultural resources and to identify any such resources at the earliest possible time during project-related earthmoving activities:

- *Native American monitors from culturally affiliated Native American Tribes shall be invited to monitor the vegetation grubbing, stripping, grading or other ground-disturbing activities in the project area to determine the presence or absence of any cultural resources. Native American representatives from cultural affiliated Native American Tribes act as a representative of their Tribal government and shall be consulted before any ground-disturbing activities begin.*
- *Native American representatives and Native American monitors have the authority to identify sites or objects of significance to Native Americans and to request that work be stopped, diverted or slowed if such sites or objects are identified within the direct impact area. Only a Native American representative shall recommend appropriate treatment of such sites or objects.*

Compliance with the aforementioned measures shall be documented and submitted with applicable reports to the City's Community Development Department.

4.3-3(d) Develop a standard operating procedure, points of contact, timeline and schedule for the project so all possible damages can be avoided or alternatives and cumulative impacts properly accessed.

If potential tribal cultural resources, archaeological resources, other cultural resources, articulated, or disarticulated human remains are discovered by Native American Representatives or Monitors from interested Native American Tribes, qualified cultural resources specialists or other project personnel during construction activities, work shall cease in the immediate vicinity of the find (based on the apparent distribution of cultural resources), whether or not a Native American Monitor from an interested Native American Tribe is present. A qualified cultural resources specialist and

Native American Representatives and Monitors from culturally affiliated Native American Tribes shall assess the significance of the find and make recommendations for further evaluation and treatment as necessary. These recommendations shall be documented in the project record.

If adverse impacts to tribal cultural resources, unique archeology, or other cultural resources occurs, then consultation with Wilton Rancheria regarding mitigation contained in the Public Resources Code Sections 21084.3(a) and (b) and CEQA Guidelines Section 15370 shall occur, in order to coordinate for compensation for the impact by replacing or providing substitute resources or environments.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

4.3-4 Cause a cumulative loss of cultural resources. Based on the analysis below, the cumulative impact is *less than significant*.

Generally, while some cultural resources may have regional significance, the resources themselves are site-specific, and impacts to them are project-specific. For example, impacts to a subsurface archeological find at one project site would not generally be made worse by impacts to a cultural resource at another site due to development of another project. Rather, the resources and the effects upon them are generally independent. A possible exception to the aforementioned general conditions would be where a cultural resource represents the last known example of its kind or is part of larger cultural resources such as a single building along an intact historic Main Street. For such a resource, cumulative impacts, and the contribution of a project to them, may be considered cumulatively significant.

As described throughout this Chapter, the project site is included within the American River Placer Mining District, which is considered eligible for listing in the NRHP and CRHR; however, because physical features of the American River Placer Mining District are not present within the project site, the proposed development would not result in adverse effects to the historical significance of the District. Furthermore, implementation of the project-specific mitigation measures set forth in this chapter (Mitigation Measures 4.3-2 and 4.3-3[a] through 4.3-3[c]) would ensure that potential impacts related to disturbance of unknown cultural or tribal cultural resources within the site are reduced to less-than-significant levels.

Similar to the proposed project, future development projects within the City would be required to implement project-specific mitigation to ensure any potential impacts to identified cultural resources are reduced to a less-than-significant levels. For example, General Plan Action CHR.1.3.1 requires historic resources and paleontological studies for all applicable discretionary projects, in accordance with CEQA. In addition, General

Plan Action CHR.1.3.2 requires that the Community Development Department be notified immediately if any cultural resources or human remains are uncovered during construction, with all construction in the vicinity of the find ceasing immediately and appropriate steps taken subsequent to the find to determine next steps. Given that cultural resource impacts are generally site-specific and each future project within the City would be required to adhere to City policies, any potential impacts associated with cumulative buildout of the planning area would not combine to result in a significant cumulative impact.

Based on the above information, implementation of the aforementioned mitigation measures would reduce all project-specific impacts to less-than-significant levels, and the potential for impacts related to a cumulative loss of cultural resources, to which implementation of the proposed project might contribute, would be ***less than significant.***

Mitigation Measure(s)

None required.

4.4 Geology and Soils/Mineral Resources

4.4 GEOLOGY AND SOILS / MINERAL RESOURCES

4.4.1 INTRODUCTION

The Geology and Soils/Mineral Resources chapter of this EIR describes the geologic and soil characteristics of the project site and evaluates the extent to which implementation of the proposed project could be affected by unstable earth conditions and various geologic and geomorphic hazards. In addition, the chapter evaluates known mineral resources on the project site, any potential adverse effects of the proposed project on the availability of such resources, and any adverse impacts on paleontological resources.

Information presented within this chapter is primarily drawn from a Geology and Soils Report prepared by Youngdahl Consulting Group, Inc. and peer reviewed by Geocon Consultants, Inc. (see Appendix F),[1] the City of Rancho Cordova General Plan,[2] and the associated EIR.[3]

4.4.2 EXISTING ENVIRONMENTAL SETTING

Background setting information regarding the geology and soils, seismicity, mineral resources, and paleontological resources associated with the project site and the surrounding region is provided below.

Regional Setting

The project site is located within the Sacramento Valley, which, together with the San Joaquin Valley, comprises the Great Valley geomorphic province. The Great Valley is a forearc basin composed of thousands of feet of sedimentary deposits that has undergone periods of subsidence and uplift over millions of years. The Great Valley basin began to form during the Jurassic period as the Pacific oceanic plate was subducted underneath the adjacent North American continental plate. The subduction zone and associated trench shifted 80 miles seaward to the present location of the Coast Ranges, and a new trench formed offshore; buckling at the edge of the new continent creating a forearc basin. In the western portion of the Great Valley, Upper Jurassic to Upper Cretaceous rock sequences rest on Upper Jurassic oceanic crust sequences. In contrast, the eastern portion of the Great Valley is composed of shallow Pleistocene nonmarine deposits over a layer of Cretaceous marine/deltaic deposits, which rests on the metamorphic and igneous rocks of the Sierra Nevada, which is the western edge of the continental margin.

During the Jurassic and Cretaceous periods of the Mesozoic era, the Great Valley existed as a marine depositional environment. By the end of the Mesozoic, the northern portion of the Great Valley began to fill with considerable gigantic debris as tectonic forces caused uplift of the basin. Several formations were deposited during the Cenozoic Era, including but not limited to, the Ione Formation at the edge of inland sea, the Mehrten Formation and the Laguna Formation in the Sacramento Valley, and the Modesto Formation near stream channels. In the Holocene era, after

---

1 Youngdahl Consulting Group, Inc. *Geology and Soils for The Preserve.* June 2019.
Geocon Consultants, Inc. *Subject: The Preserve, Grant Line Road and Raymer Way, Rancho Cordova, California. Geotechnical Peer Review*. March 24, 2020.

2 City of Rancho Cordova. *Rancho Cordova General Plan.* Adopted June 26, 2006.

3 City of Rancho Cordova. *Ranch Cordova General Plan Environmental Impact Report*. June 2006.

the last glaciation, stream flows dropped and streams became undersized compared to the valleys, with alluvium consisting of unconsolidated gravel, sand, silt, and clay, deposited along stream channels.

Most of the surface of the Great Valley is covered with Holocene and Pleistocene-age alluvium. The alluvium is composed of sediments from the Sierra Nevada to the east and the Coast Range to the west, which were carried by water and deposited on the valley floor. Siltstone, claystone, and sandstone are the primary types of sedimentary deposits.

Regional Seismicity

A fault is defined as a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side. A fault zone is a zone of related faults that is commonly braided and subparallel, but may be branching or divergent. Movement within a fault causes an earthquake. When movement occurs along a fault, the energy generated is released as waves that cause ground shaking. Ground shaking intensity varies with the magnitude of the earthquake, the distance from the epicenter, and the type of rock or sediment through which the seismic waves move.

The potential risk of fault rupture is based on the concept of recency and recurrence. The more recently a particular fault has ruptured, the more likely the fault would rupture again. The California Geological Survey defines an "active fault" as one that has had surface displacement within the past 11,000 years (Holocene). Potentially active faults are defined as those that have ruptured between 11,000 and 1.6 million years before the present (Quaternary). Faults are generally considered inactive if evidence of displacement is not present during the Quaternary. The Midland Fault and the Bear Mountain Fault Zones, considered the faults of greatest concern in Sacramento County due to their location and size, are older than 1.6 million years old.

The Foothills fault system is anticipated to have the greatest potential impact. The California Geologic Survey (CGS) identifies low, medium, and high severity earthquake zones within California. The General Plan places the City in Seismic Zone 3, which is an area that can expect to experience ground motion of low severity.[4] Based upon seismologic and geologic conditions, the maximum level of ground motion potentially experienced in the City would occur as a result of a 6.5 magnitude earthquake on the Foothills Fault zone or the Great Valley fault. Minor ground shaking can result in partial collapse of buildings, and extensive damage in poorly built or sub-standard structures.

Project Site Characteristics

The project site consists of approximately 279.3 acres located northwest of Raymer Way and Grant Line Road, within the Grant Line West Planning Area of the City. The project site is located on the southern edge of the Sacramento Valley, adjacent to the Sierra Nevada foothills. The topography of the area is generally flat with elevations ranging from approximately 220 feet above mean sea level to 225 feet above sea level. The CGS lists the project site and surrounding area as being underlain by the Pliocene Age Laguna Formation and some Quaternary Age Alluvium.

Currently, the 279.3-acre project site contains two single-family residences and associated outbuildings on the southern portion of the site, within parcels 072-0300-002 and -005. An orchard is located within the northeastern portion of the site within and parcel 073-0010-011, and a third

[4] City of Rancho Cordova. *Rancho Cordova General Plan Environmental Impact Report*. June 2006.

single-family residence and associated outbuildings are located on APN 072-0300-008. The remainder of the site consists primarily of non-native grasses, with scattered trees located in the vicinity of the existing residences and associated access roads. The site is interspersed with seasonal drainage corridors and wetlands, and Morrison Creek runs northeast to southwest through the site.

The geologic conditions on the project site are discussed below in further detail, including descriptions of existing site geology, soil conditions, seismicity and ground shaking, potential for earthquake-induced liquefaction, and expansive soils. In addition, this section includes a description of known mineral and paleontological resources within the project area.

Site Geology and Subsurface Conditions

Based on the Geology and Soils Report, subsurface soil conditions on the project site consist of a heterogeneous mixture of materials. Soils were observed to consist of clayey silty sands, clayey sands, clayey sandy silts, and silty sandy clays containing varying amounts of gravel from the surface to a depth of about two to four feet below the existing ground surface. In some areas, the soils extend to a depth of as much as 10 feet. Underlying the relatively fine-grained soils are clayey and silty, gravel and cobbles. According to the Department of Water Resources Water Data Library Web Site, the ground elevation of the water table on the project site is approximately 76 feet above sea level.

The soils in the area have been mapped by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (see Figure 4.4-1). The results of the Custom Soil Survey completed for the project site are summarized in Table 4.4-1 below.

Seismicity and Ground Shaking

Fault rupture hazards occur near active faults and tend to reoccur along the surface traces of previous fault movements. A total of eight faults and/or fault zones have been identified as potential seismic sources within a 100-kilometer (62.14-mile) radius of the project site. The fault zones expected to have the greatest impact to are the faults associated with the Foothills fault system. The Foothills fault system is located along the western flank of the Sierra Nevada Mountain range. The site does not include any active faults and is not located within an Alquist-Priolo Special Studies Zone.[5]

The intensity of ground shaking resulting from an earthquake is a function of the size of the earthquake, the duration of the energy release, the distance from the subject location, and the ability of the geologic materials to transmit the energy. In general, the greater the energy release and the closer the center of release to the site, the greater the intensity of the ground shaking. Per the Geology and Soils Report, the project site is in a region of California characterized by low historical seismic activity and a low ground-shaking hazard. According to the City's General Plan EIR, the City's Planning Area is considered to be in a relatively moderate ground shaking zone due to the distance to active faults

[5] California Department of Conservation. *EQ Zapp: California Earthquake Hazards Zone Application.* Available at: https://www.conservation.ca.gov/cgs/geohazards/eq-zapp. Accessed September 2020.

Figure 4.4-1
Soil Resource Report Map

Note: See corresponding map unit numbers in Table 4.4-1.

Table 4.4-1
Soil Characteristics On-Site

Soil Map Unit	Map Unit Symbol	Percent of Site	Shrink-Swell Potential	Permeability	Water Erosion Hazard	Runoff Rating
Hicksville gravely loam, 0 to 2 percent slopes	159	21.4	0.31	Moderately High	7	C/D
Red Bluff loam, 2 to 5 percent slopes	192	7.2	0.50	Moderately High	6	C
Red Bluff-Redding complex, 0 to 5 percent slopes	193	38.3	0.50	Moderately High	6	C
Redding gravelly loam, 0 to 8 percent slopes	198	33.1	0.99	Moderately High	6	D

[1] The NRCS online soil database uses 0-1 values to describe factors such as shrink-swell potential with 0 being very low and 1.0 being very high.

[2] NRCS Saturated hydraulic connectivity (Ksat) refers to the ease with which pores in a saturated soil transmit water based on NRCS class limits.

[3] Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/B, B/D, and C/D). The groups are defined as follows: Group A soils have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission. Group B soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission. Group C soils have a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission. Group D soils have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission. If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Source: Youngdahl Consulting Group, Inc.

Liquefaction and Subsidence

Liquefaction is the sudden loss of soil shear strength and sudden increase in porewater pressure caused by shear strains, as could result from an earthquake. Research has shown that saturated, loose to medium-dense sands with a silt content less than about 25 percent and located within the top 40 feet are most susceptible to liquefaction and surface rupture/lateral spreading. The CGS has designated certain areas within California as potential liquefaction hazard zones, which are areas considered at risk of liquefaction-related ground failure during a seismic event based upon mapped surficial deposits and the depth to the areal groundwater table.

Per the General Plan, subsidence is the gradual settling or sinking of surface soil deposits with little horizontal motion. Sacramento County is affected by five causes of land subsidence: 1) compaction of unconsolidated soils from earthquakes; 2) compaction by heavy structures; 3) erosion of peat soils; 4) peat oxidation; and 5) groundwater withdrawal.

The project site is not in a mapped liquefaction hazard zone. In addition, the depth to the groundwater table and aquifer system is generally greater than 50 feet. The potential for other secondary hazards (i.e., ground lurching, differential settlement, or lateral spreading) occurring during or after seismic events in the City of Rancho Cordova Planning Area is also considered to be low due to the distance of active faults. Therefore, the potential for liquefaction is considered low.

Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume change due to variation in moisture content. Compressible materials consisting of surficial organic material, loose soils, undocumented fills, debris, rubble, rubbish, etc., are considered unsuitable materials for support of proposed structures as such materials can differentially settle. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may cause unacceptable settlement of structures. The NRCS reports that shrink-swell potentials for on-site soils range from 0.31 to 0.99, using a scale of 0 to 1.0 where 1.0 represents a high potential (see Table 4.4-1). As shown in Table 4.4-1, the on-site soils with the highest expansive potential are located in the northern portion of the project site.

Groundwater

The project site is located within the Central Sacramento County Groundwater Basin (Central Basin). The Central Basin is roughly bordered to the north by the American River and the Cosumnes River to the south. Zone 40 is located within the Central Basin and includes the project site. Groundwater in the Central Basin is stored within a shallow aquifer in the Laguna or Modesto Formations, and in a deeper underlying aquifer zone in the Mehrten Formation. Overall, groundwater within the City of Rancho Cordova is anticipated to be found at depths greater than 50 feet.[6] The project site is primarily underlain by Mehrten features and, thus, groundwater is anticipated to be deeper than other regions of the City.

Mineral Resources

Department of Conservation maps were reviewed to examine the potential of a mine or prospect being located on the project site.[7] Maps contained in the Mineral Land Classification of the Folsom 15-Minute Quadrangle do not identify any documented mines or prospects on the project site or in the project vicinity. While the General Plan identifies mining operations to the north and east of the project site, the site does not contain any such operations. Furthermore, the California Division of Mines and Geology indicates that the project site is classified as either MRZ-3 or MRZ-4 for Placer gold, copper, zinc, and industrial minerals. MRZ-3 and MRZ-4 are considered areas where the significance of mineral deposits either cannot be evaluated from existing data or the data is inadequate for placement in any other mineral resource zone. According to the City's General Plan, the site is not listed as a locally important mineral resource recovery site.

Paleontological Resources

Paleontological resources include fossil remains, as well as fossil localities and formations, which have produced fossil material in other nearby areas. A search of the paleontological records on the University of California Museum of Paleontology (UCMP) database was performed by the City of Rancho Cordova in the General Plan EIR. According to the results of the records search, the

6 City of Rancho Cordova. *Rancho Cordova General Plan Environmental Impact Report*. June 2006.
7 Department of Conservation. *Mineral Land Classification Map Folsom 15-Minute Quadrangle*. May 30, 2018.

City does not appear sensitive for the presence of paleontological resources, and paleontological resources have not been identified in the City's Planning Area. However, fossils have been discovered from the Riverbank Formation. The finds have been dated to the late Pleistocene period and include fish, frogs, snakes, turtles, and plant species.

4.4.3 REGULATORY CONTEXT

The following section is a brief summary of the regulatory context under which geology and soils, mineral resources, and paleontological resources are managed at the federal, State, and local levels.

Federal Regulations

The following are the federal environmental laws and policies relevant to geology and soils, mineral resources, and paleontological resources.

Federal Earthquake Hazards Reduction Act

Passed by Congress in 1977, the Federal Earthquake Hazards Reduction Act is intended to reduce the risks to life and property from future earthquakes. The Act established the National Earthquake Hazards Reduction Program (NEHRP). The goals of NEHRP are to educate and improve the knowledge base for predicting seismic hazards, improve land use practices and building codes, and to reduce earthquake hazards through improved design and construction techniques.

International Building Code

The Uniform Building Code (UBC) was first published in 1927 by the International Council of Building Officials and is intended to promote public safety and provide standardized requirements for safe construction. The UBC was replaced in 2000 by the new International Building Code (IBC), published by the International Code Council (ICC), which is a merger of the International Council of Building Officials' UBC, Building Officials and Code Administrators International's National Building Code, and the Southern Building Code Congress International's Standard Building Code. The intention of the IBC is to provide more consistent standards for safe construction and eliminate any differences between the three preceding codes. All State building standard codes are based on the federal building codes.

Federal Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained through the National Pollutant Discharge Elimination System (NPDES) permit program or point sources are discrete conveyances such as pipes or man-made ditches.

National Pollutant Discharge Elimination System

The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to California's Regional Water Quality Control Board (RWQCB) by the U.S. Environmental Protection Agency (EPA) to perform many permitting, administrative, and enforcement aspects of the program. The terms of the NPDES permits implement pertinent

provisions of the Federal Clean Water Act to protect surface waters, including lakes, rivers, streams, bays, dry steam beds, wetlands, and storm sewers.

State Regulations

The following are the State environmental laws and policies relevant to geology and soils, mineral resources, and paleontological resources.

Alquist-Priolo Earthquake Fault Zoning Act

The 1972 Alquist-Priolo (AP) Earthquake Fault Zone Act was passed to prevent the new development of buildings and structures for human occupancy on the surface of active faults. The Act is directed at the hazards of surface fault rupture and does not address other forms of earthquake hazards. The locations of active faults are established into fault zones by the AP Fault Zone Act. Local agencies regulate any new developments within the appropriate zones in their jurisdiction.

The AP Fault Zone Act regulates development near active faults so as to mitigate the hazard of surface fault rupture. The AP Fault Zone Act requires that the State Geologist (Chief of the California Department of Mines and Geology [CDMG]) delineate “special study zones” along known active faults in California. Cities and counties affected by the special study zones must regulate certain development projects within the special study zones. The AP Fault Zone Act prohibits the development of structures for human occupancy across the traces of active faults. According to the AP Fault Zone Act, active faults have experienced surface displacement during the last 11,000 years. Potentially active faults are those that show evidence of surface displacement during the last 1.6 million years. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and may not exist.

Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California Public Resources Code Section 1690-2699.6) addresses non-surface rupture earthquake hazards, including liquefaction, induced landslides, and subsidence. A mapping program is also established by this Act, which identifies areas within California that have the potential to be affected by such non-surface rupture hazards. 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.

California Building Standards Code

The State of California regulates development within the State through a variety of tools that reduce or mitigate potential hazards from earthquakes or other geologic hazards. The 2019 California Building Standards Code (CBSC) (California Code of Regulations, Title 24) governs the design and construction of all building occupancies and associated facilities and equipment throughout California. In addition, the CBSC governs development in potentially seismically active areas and contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards. The California building standards include building standards in the national building code, building standards adapted from national codes to meet California conditions, and building standards adopted to address particular California concerns. It should be noted that the CBSC is updated on a triennial cycle. The 2019 CBSC, which contains new code changes, became effective on January 1, 2020.

Local Regulations

The following are the local environmental laws and policies relevant to geology and soils, mineral resources, and paleontological resources.

City of Rancho Cordova General Plan

Goals and policies from the City's General Plan related to geology and soils, mineral resources, and paleontological resources that are applicable to the proposed project are presented below:

Goal S.3 Reduce the risk of adverse effects to residents or businesses as a result of geologic or seismic instability.

- Policy S.3.1 Support efforts by federal, State, and local jurisdictions to investigate local seismic and geologic hazards and support those programs that effectively mitigate these hazards.
- Policy S.3.2 Ensure that new structures are protected from damage caused by geologic and/or soil conditions to the greatest extent feasible.

Goal NR.5 Protect the quantity and quality of the City's water resources.

- Policy NR.5.5 Minimize erosion to stream channels resulting from new development in urban areas consistent with State law.

City of Rancho Cordova Municipal Code

Sections of the Municipal Code related to geology and soils, mineral resources, and paleontological resources that are applicable to the proposed project are presented below.

Chapter 16.04, Building Code

Chapter 16.04, Building Codes, of the Rancho Cordova Municipal Code is meant to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, and installation of all buildings within the City. Section 16.04.030 adopts Title 24 of the California Code of Regulations, and any rules and regulations incorporated within Title 24.

Chapter 16.44, Land Grading and Erosion Control

Chapter 16.44, Land Grading and Erosion Control, of the Rancho Cordova Municipal Code, includes definitions, conditions, and permit requirements for new development to minimize damage to surrounding properties and public rights-of-way, degradation of water quality, disruption of natural or City-authorized drainage flows caused by clearing, grading, filling, and excavating, and sediment and pollutant runoff.

4.4.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to geology and soils, mineral resources, and paleontological resources. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the proposed project would result in any of the following:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state;
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan; and/or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Issues Dismissed in the Initial Study

The Initial Study prepared for the proposed project (see Appendix A) determined that development of the proposed project would result in a less-than-significant impact related to the following:

- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

For the reasons cited in the Initial Study, the potential impacts associated with the use of septic tanks or alternative wastewater disposal systems are not analyzed further in this EIR.

Method of Analysis

The analysis of the proposed project's potential impacts related to geology, soils, and mineral resources is based primarily on the Geology and Soils Report prepared for the proposed project by Youngdahl Consulting Group, Inc. Information related to paleontological resources is sourced primarily from the City of Rancho Cordova General Plan.

Geology and Soils Report

The Geology and Soils Report prepared for the proposed project by Youngdahl Consulting Group, Inc. drew on information from previous studies, including a 2004 Geotechnical Engineering Report performed by Wallace-Kuhl & Associates, Inc., regional geologic maps and fault maps prepared by the California Department of Conservation's CGS, and soil maps and information provided by the USDA NRCS. Impacts related to geology, soils, and seismicity were evaluated based on

available data (maps, soil surveys, reports), and professional judgement. The analysis focuses on the proposed project's potential to result in the risk of personal injury, loss of life, and damage to property as a result of existing geologic and geotechnical conditions within the project area. The analysis of impacts assumes that the project applicant would conform to the latest stormwater pollution prevention requirements and all applicable policies, standards, and ordinances set forth by the County, City, and other agencies.

Mineral Resources

As part of the Geology and Soils Report, the proposed project's potential to affect mineral resources was evaluated by examining the project footprint in comparison to resource locations mapped by the CGS.

Paleontological Resources Analysis

The assessment of paleontological resources and the potential for discovery on the project site was based primarily on the General Plan EIR. The General Plan EIR included a search of the University of California, Berkeley, Museum of Paleontology collections database, as well as historical maps and aerial photographs.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.4-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. Based on the analysis below, the impact is *less than significant*.

As discussed above, the project site is not located within an AP Fault Zone. Evidence of recent faulting within the project site area has not been detected, nor have any active faults been mapped at or near the project site.

The project site is located in an area of relatively low ground shaking hazard. However, a large earthquake on a nearby fault could cause minor ground shaking in the vicinity of the project, potentially resulting in an increased risk of structural loss, injury, or death. Liquefaction and related seismic hazards such as lateral spreading and differential settlement have the potential to compromise the structural integrity of the proposed residences. Despite the potential for seismic events to cause damage to the structures on the project site, all residences would be designed in accordance with the CBSC, and would be able to: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and 3) resist major earthquakes without collapse, but with some structural, as well as non-structural, damage.

As noted in the Geology and Soils Report, due to the absence of a permanently elevated groundwater table and the relatively low seismicity of the project area, the potential for seismically induced damage to the proposed structures due to

liquefaction, surface rupture, and settlement is minimal. Furthermore, because the project site does not contain any steep slopes, the risk of landslide the site would not be substantial.

Overall, the proposed residential development would not be subject to substantial risks related to fault rupture hazards. Due to the relatively low seismicity of the area, compliance with CBSC requirements related to seismic design, and the lack of substantial natural slopes on-site, the potential for the project to expose people or structures to the risk of loss, injury, or death involving rupture of an earthquake fault, strong ground shaking, ground failure, liquefaction, or landslides would be ***less-than-significant***.

Mitigation Measure(s)
None required.

4.4-2 Result in substantial soil erosion or the loss of topsoil. Based on the analysis below, the impact is *less than significant*.

Erosion refers to the removal of soil from exposed bedrock surfaces by wind or water. Although naturally occurring, erosion is often accelerated by human activities that disturb soil and vegetation. Grading, excavation, removal of vegetation cover, and loading activities associated with construction could temporarily increase erosion, runoff, and sedimentation. Ground-disturbing activities associated with the proposed project could also result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential within the construction and staging areas. Ground-disturbing activities that would occur as part of the proposed project would occur within the portion of the site to the south of Morrison Creek. The 185.3 acres of open space area within the northern portion of the site would not be included in development of the proposed project.

NPDES permits are required for discharges of pollutants to waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, dry stream beds, wetlands, and storm sewers. The RWQCB issues permits in lieu of direct issuance by the Environmental Protection Agency. The terms of the NPDES permits implement pertinent provisions of the Federal Clean Water Act. In accordance with the NPDES General Construction Permit, a Stormwater Pollution Prevention Plan (SWPPP) is required for any project that disturbs at least one acre of soil. Given that the proposed project would disturb approximately 98.9 acres within the site, the project would be required to prepare a SWPPP and submit a Notice of Intent (NOI) to the RWQCB.

The SWPPP would be kept on site during construction activity and made available upon request to representative of the City of Rancho Cordova, the County of Sacramento, or the Central Valley RWQCB. The SWPPP would identify pollutant sources that may affect the quality of stormwater associated with construction activity, and identify stormwater pollution prevention measures to be implemented to reduce pollutants in stormwater discharges during and after construction. Therefore, the SWPPP would also include a description of potential pollutants and hazardous materials present on site during construction. The SWPPP would include details of

how the sediment and erosion control practices, also known as best management practices (BMPs) would be implemented. Implementation of the SWPPP would comply with County, State, and federal water quality requirements. Development of the SWPPP would include plans to treat stormwater runoff in accordance with the standards of the California Stormwater Management Practice New Development and Redevelopment Handbook and the Sacramento Stormwater Quality Partnership Municipal Stormwater Permit (MS4). The plan would include drainage design from all paved surfaces, including streets, parking lots, driveways, and roofs, as well as landscaping.

Furthermore, Chapter 16.44 of the City's Municipal Code regulates grading and erosion by requiring all projects that grade more than one acre of land submit an application for review by the City prior to approval of a grading permit. The application must include a grading and erosion plan which would be reviewed for safety of grading and potential for erosion. The project would be subject to compliance with Chapter 16.44 of the City's Municipal Code and the project applicant would be required to prepare a grading and erosion plan. The grading and erosion plan would include erosion control measures and sediment control measures to ensure the stability of the ground surface and soil within the project site during construction activities.

Based on the above, development of the proposed project would not result in substantial soil erosion or the loss of topsoil with the preparation of an SWPPP in accordance with the NPDES General Construction Permit and preparation of a grading and erosion plan in accordance with the City's Municipal Code. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.4-3 Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Issues associated with unstable geologic units and/or soils, including expansive soils, landslide, lateral spreading, subsidence, liquefaction, and collapse are discussed below.

Landslide

Per the CGS the project site is not currently within a State of California Seismic Hazard Zone for seismically induced land sliding.[8] In addition, the project site is relatively

[8] Department of Conservation. *CGS Information Warehouse: Landslides*. Available at: http://maps.conservation.ca.gov/cgs/informationwarehouse/. Accessed April 2, 2020.

gently rolling to flat and does not have any steep slopes. Given that the project site is not mapped in a landslide zone and the site does not contain any slopes that could be subject to landslide risks, development of the southern portion of the project site with 440 single-family units and associated improvements would not result in on- or off-site landslide hazards.

Lateral Spreading

Lateral spreading is associated with terrain near free faces such as excavations, channels, or open bodies of water. The project site is relatively level with gentle undulation throughout the property. The Geology and Soils Report concluded that the soil materials at the site would not create any excavation difficulties, nor would the relatively shallow slopes present within the project site create any slope instability. Additionally, the proposed residences would be setback at least 100 feet from Morrison Creek within the project site. The setbacks would ensure that project development would not destabilize the channel or otherwise result in lateral spreading issues. Because the proposed project would establish appropriate setbacks from the Morrison Creek channel, and because the proposed development area does not contain any steep slopes or free faces, the proposed project would not be subject to substantial risks related to lateral spreading.

Liquefaction

Liquefaction occurs when saturated fine-grained sand and/or silts lose their physical strength temporarily during earthquake-induced shaking and behave as a liquid. The CGS has designated certain areas within California as potential liquefaction hazard zones; however, the project site is not currently mapped for potential liquefaction hazard by the CGS. Additionally, the Geology and Soils Report indicates that a low probability of liquefaction exists at the project site. Therefore, the proposed structures and associated improvements would not be subject to substantial risks associated with liquefaction.

Collapse

As discussed above, all structures constructed as part of the proposed project would be required to adhere to the provisions of the most recent version of the CBSC in effect at the time of building permit issuance. Structures built according to the seismic design provisions of current building codes would be able to resist major earthquakes without collapse, but with some structural, as well as non-structural damage. Given the project's adherence to the CBSC requirements, the proposed project would not be subject to substantial risks associated with building collapse.

Expansive Soils

According to the preliminary geotechnical evaluation performed by Wallace-Kuhl & Associates, the site contains soils made of clay with a moderately high expansion potential. As shown in Table 4.4-1 above, the shrink-swell potential of soils on the project site ranges from 0.31 to 0.99, on a scale of 0 to 1.0, where 1.0 represents a high potential. Expansive soils have the potential to compromise the structural integrity of project features, which could be a significant impact. However, in order to meet the CBSC Chapter 18 requirements, the project applicant's geotechnical engineer would be responsible for conducting final geotechnical evaluations of the on-site soils to further determine the extent of soils with adverse shrink-swell properties prior to

grading and construction activities. Based on subsurface conditions, the project applicant's geotechnical engineers would make recommendations for project element designs to accommodate for the effects of expansive soils. Corrective actions may include excavation of potentially problematic soils during construction and replacement with engineered backfill, ground treatment processes, and direction of surface water away from foundation soils. The applicants would select one or more of the measures in consultation with qualified engineers before grading activities begin. Therefore, with implementation of the aforementioned corrective actions, the proposed project would not be exposed to substantial risks related to expansive soils.

Conclusion

From a geotechnical standpoint, the project site is preliminarily considered suitable for the proposed construction. Thus, the proposed project would not likely be subject to issues associated with lateral spreading, subsidence, liquefaction, collapse, or expansive soils. However, implementation of recommendations included in a final geotechnical engineering report would be required in order to ensure adequate support of the proposed improvements. Because a final geotechnical engineering report has not yet been prepared, a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.4-3 *The Improvement Plan submittal shall include a final geotechnical engineering report produced by a California Registered Civil Engineer or Geotechnical Engineer for review and approval by the Rancho Cordova Community Development Department. The report shall address and make recommendations on the following:*

A. Road, pavement, and parking area design;
B. Structural foundations, including retaining wall design (if applicable);
C. Grading practices;
D. Erosion/winterization;
E. Special problems discovered on-site, (i.e., open bodies of water, expansive/unstable soils, etc.); and
F. Slope stability.

Once approved by the Rancho Cordova Community Development Department, two copies of the final report shall be provided to the Rancho Cordova Community Development Department and one copy to the Rancho Cordova Building and Safety Division for its use. It is the responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

4.4-4 Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State or of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Based on the analysis below, the impact is *less than significant*.

According to the Geology and Soils Report performed by Youngdahl Consulting, the project site does not contain any known mineral resources that would be of value to the region or the residents of the State. Furthermore, the City of Rancho Cordova General Plan does not list the project site as a locally-important mineral resource recovery site. The site has been previously designated for residential uses, and mineral resource extraction on the site would be incompatible with the existing residential development to the south of the site. Therefore, development of the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.4-5 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

According to the City's General Plan EIR, paleontological resources have not been identified in the Planning Area. However, fossils have been recovered from the Riverbank Formation. The General Plan EIR concluded that build out of the City's General Plan could result in a significant impact to unknown cultural resources. With implementation of Policy CHR.3.3 and Action CHR.3.3.4 which require all new development projects to comply with established procedures upon discovery of unique paleontological resources, impacts related to disturbance of paleontological resources were determined to be less than significant.

Although the proposed project would not have the potential to result in the destruction of unique geological features, previously unknown paleontological resources could exist within the project site and off-site improvement areas. Therefore, ground-disturbing activity, such as grading, trenching, or excavating associated with implementation of the proposed project, could have the potential to disturb or destroy unknown paleontological resources. Thus, the proposed project could result in the direct or indirect destruction of a unique paleontological resources, and a ***significant*** impact could occur.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level

4.4-5 *Should construction or grading activities result in the discovery of unique paleontological resources, all work within the vicinity of the discovery shall cease. The City of Rancho Cordova Community Development Department shall be notified, and the resources shall be examined by a qualified paleontologist at the developer's expense, for the purpose of recording, protecting, or curating the discovery as appropriate. The paleontologist shall submit to the Community Development Department for review and approval a report of the findings and method of curation or protection of the resources. Work may only resume in the area of discovery when the preceding work has occurred.*

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

4.4-6 Cumulative impacts to geology and soils, mineral resources, and paleontological resources. Based on the analysis below, the cumulative impact is *less than significant*.

Impacts to geology and soils, mineral resources, and paleontological resources related to implementation of the proposed project are analyzed throughout this chapter. As discussed above, existing geological and soil conditions on the site would be adequate to support development of the proposed project. Mitigation Measure 4.4-3, which requires preparation and submittal of a final geotechnical report, would ensure that project-specific impacts related to soil stability would be reduced to less-than-significant levels.

While some geologic characteristics may affect regional construction practices, impacts and mitigation measures are primarily site-specific and project-specific. For example, impacts resulting from development on expansive soils at one project site are not worsened by impacts from development on expansive soils or undocumented fill at another project site. Rather, the soil conditions, and the implications of such conditions for each project, are independent.

As such, the potential for cumulative impacts related to geology, soils, seismicity, paleontological resources, and mineral resources, to which implementation of the proposed project might contribute, is ***less than significant***.

Mitigation Measure(s)

None required.

4.5 Hazards and Hazardous Materials

4.5. HAZARDS AND HAZARDOUS MATERIALS

4.5.1 INTRODUCTION

The Hazards and Hazardous Materials chapter of the EIR describes existing and potentially occurring hazards and hazardous materials within the project area. The chapter includes a discussion of potential impacts posed by such hazards to the environment. In addition, surrounding land uses are discussed in order to provide an assessment of whether the project could impact surrounding land uses. The question of whether surrounding land uses could impact the project's future residents is not a question requiring analysis under CEQA.[1]

The Hazards and Hazardous Materials chapter is primarily based on information drawn from a Phase I Environmental Site Assessment (ESA) (see Appendix G) prepared for the project site by Youngdahl Consulting Group, Inc.,[2] as well as the City of Rancho Cordova General Plan[3] and associated EIR.[4]

4.5.2 EXISTING ENVIRONMENTAL SETTING

The following section includes a definition of hazardous materials and descriptions of the existing conditions associated with the project site related to hazards and hazardous materials.

Hazardous Materials

The term hazardous substance refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if the material appears on a list of hazardous materials prepared by a federal, State, or local regulatory agency or if the material has characteristics defined as hazardous by such an agency. The California Environmental Protection Agency (CalEPA), California Department of Toxic Substance Control (DTSC) defines hazardous waste, as found in the California Health and Safety Code Section 25141(b), as follows:

> […] its quantity, concentration, or physical, chemical, or infectious characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.

---

1 Per the *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (*CBIA*), the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment – and not the environment's impact on the project – that compels an evaluation of how future residents or users could be affected by exacerbated conditions." (*Id.* at pp. 377-378.).

2 Youngdahl Consulting Group, Inc. *Phase I Environmental Site Assessment, The Preserve, Sacramento County APNs 072-0300-001, 002, -005, 008, -010, and 073-0010-011, Rancho Cordova, California.* June 2019.

3 City of Rancho Cordova. *General Plan*. Adopted June 26, 2006.

4 City of Rancho Cordova. *General Plan Environmental Impact Report.* 2006.

The following discussion focuses on the potential Recognized Environmental Conditions (RECs) associated with the project site. A REC indicates the presence or likely presence of any hazardous substances in, on, or at a property due to any release into the environment, under conditions indicative of a release to the environment, or under conditions that pose a material threat of a future release to the environment.[5]

Additionally, the following includes a discussion of historical RECs associated with the project site. A historical REC indicates a past release of hazardous substances or petroleum products that has occurred in connection with a property and has been addressed to the satisfaction of the applicable regulatory authority. A historical REC does not have any property use restrictions, and, thus, does not have any use limitations in respect to future activities on the property.

Project Area Conditions

The project site is comprised of multiple parcels identified by Assessor's Parcel Numbers (APNs) 072-0300-001, -002, -005, -008, and 073-0010-010, and -011. Morrison Creek runs northeast to southwest through the project site. Currently, the 279.3-acre project site contains two single-family residences and associated outbuildings on the portion of the site to the south of Morrison Creek, within parcels 072-0300-002 and -005. An orchard is located within the northeastern portion of the site within and parcel 073-0010-011, and a third single-family residence and associated outbuildings are located on APN 072-0300-008, north of Morrison Creek. The remainder of the site consists primarily of ruderal grasses. Currently, the undeveloped portions of the site are used for livestock grazing.

Surrounding land uses include the Camden at Somerset Ranch residential subdivision directly to the south, vacant agricultural lands and a Teichert Aggregates Aggregate/Asphaltic Concrete site across Grant Line Road to the east, two single-family residences and industrial/open space to the north, and vacant land approved for the development of the Rio Del Oro residential community immediately adjacent to the west. The area further to the north of the site contains known contamination areas associated with the Aerojet General Corporation National Priorities List Superfund Site. A monitoring well associated with the Superfund site is located within the project site.

The site is located within California's Great Valley Geomorphic Province, a geologically young, large, flat-lying alluvial plain in the central portion of California. The project site and the surrounding area is underlain by the Laguna Formation and a thin strip of Quaternary Alluvium along the central drainage feature within the site. The Laguna Formation consists of Tertiary age fluvial granitic sands and silts. According to Spring 2017 Department of Water Resources (DWR) well records, one irrigation well is located approximately 0.5-mile to the southeast of the site. The most recent data obtained from the well in October of 2018 shows a groundwater depth of 183 feet below the ground surface (bgs). Groundwater elevation contour maps produced in 2018 by Geosyntec Consultants show each groundwater layer flowing towards the southwest in the vicinity of the project site.

The potential hazards associated with the project area identified in the Phase I ESA prepared for the project site are described in further detail below. It should be noted that the 2019 Phase I ESA incorporates the findings of multiple prior Phase I ESAs that were completed for various portions of the project site between 2015 and 2018.

[5] ASTM International. *ASTM E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* 2013.

On-Site Recognized Environmental Conditions

Based on the Phase I ESA prepared for the project site, the site does not contain any polychlorinated biphenyl (PCB) containing equipment, substantial soil staining, or stressed vegetation. However, potential RECs were identified associated with groundwater contamination, soil vapor intrusion, an on-site underground storage tank (UST) and fuel storage vessels, asbestos, lead-based paint, and termiticides. In addition, the Phase I ESA noted the presence of domestic wells and septic systems within the site. Figure 4.5-1 provides an overview of the site features described in the Phase I ESA.

Groundwater Contamination

As noted above, the project site is located within the vicinity of known contamination areas associated with the Aerojet General Corporation National Priorities List Superfund Site. Past environmental sampling has identified a contaminant plume of trichloroethylene (TCE) associated with the Aerojet area. As part of the Phase I ESA prepared for the project site, the Fall 2018 iso-concentration maps prepared by Geosyntec Consultants depicting the extent of contamination of the Aerojet area for TCE, perchlorate, and N-Nitrosodimethylamine (NDMA) were reviewed.

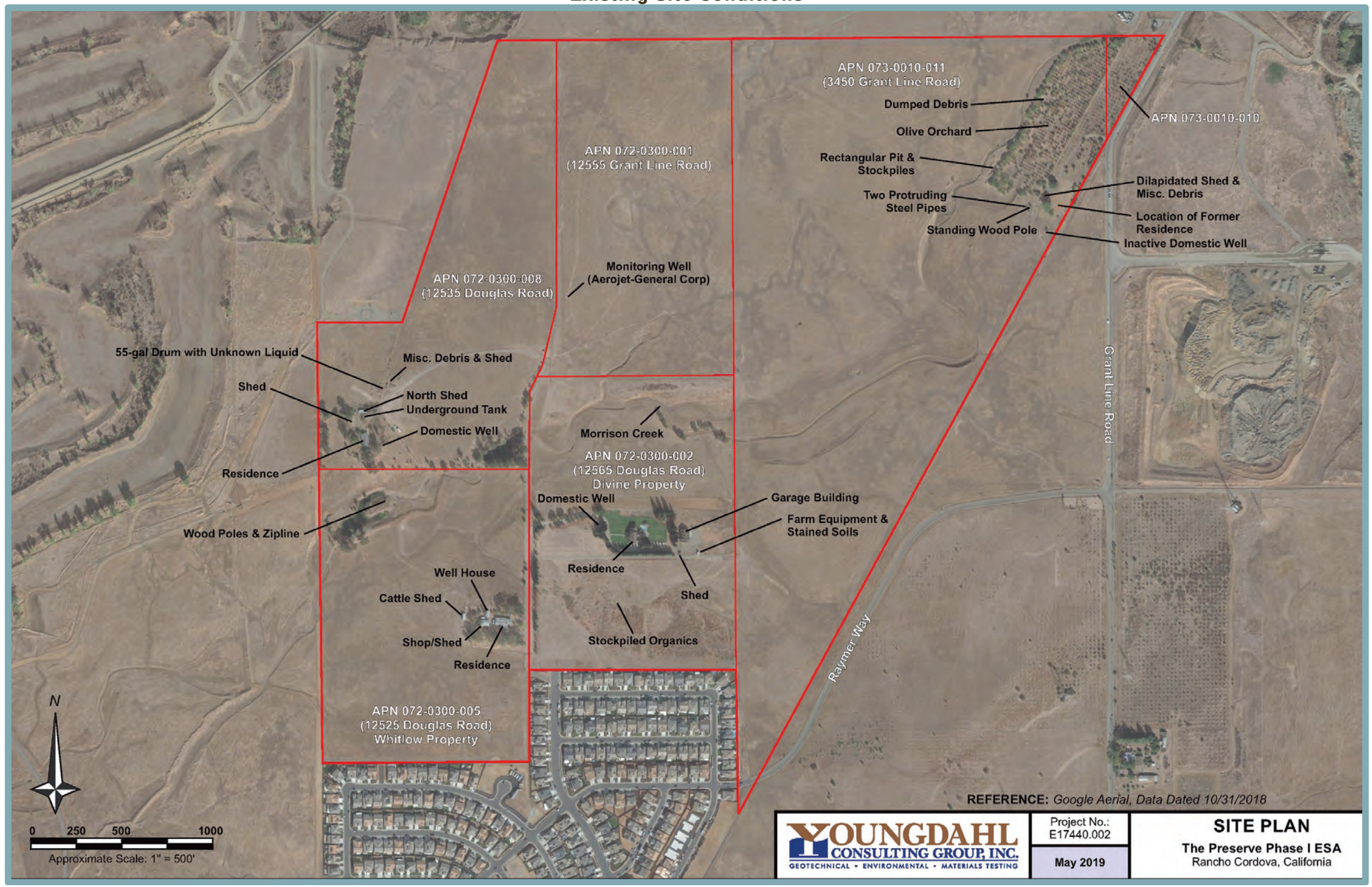
Per the maps, the NDMA contours do not intersect the project site. However, the maps show that the five parts per billion (ppb) contour for TCE in groundwater Layers C and D reach monitoring wells OS-10C1/OS-10C2 located in the southwest of parcel 072-0300-001 (12555 Grant Line Road), partially encroaches into parcel 072-0010-011, and continues west through parcel 072-0300-008 to the west adjacent parcel where an extraction well (#4757) is located. The 50 ppb contour for Layer C encroaches near the northern part of parcel 072-0300-001, near a monitoring well just outside the north property boundary (well OS-5C). The four ppb contour for perchlorate in Layer C intersects the subject property at the northeast corner of the site within parcels 072-0010-010 and -011.

The maximum contaminant level (MCL) for groundwater and drinking water established by the Environmental Protection Agency (EPA) is five ppb for TCE and six ppb for perchlorate. Perchlorate was found to be below the MCL at the subject property. In addition, perchlorate does not pose a soil vapor intrusion risk. The five ppb TCE contour does not intersect any domestic wells within the project site, but has potential to create a soil vapor intrusion scenario for future development on the site.

Vapor Encroachment

Vapor intrusion is the term used to describe the migration of volatile organic compounds (VOCs) through soil vapor from the sub-surface soil and/or groundwater upward into buildings, potentially causing unacceptable chemical exposure for building occupants. Soil vapor is one of the pathways of contamination to the subject property, along with ground water and soil. ASTM E1527-13 requires that vapor migration be treated no differently than contaminated groundwater. Thus, the soil vapor contaminant pathway needs to be considered in evaluation of RECs or other environmental concerns. The ASTM Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions (ASTM E2600-10) is the industry-accepted guidance for using Phase I ESA information to determine if a vapor encroachment condition (VEC) exists at a subject property. Per a VES conducted as part of the Phase I ESA, the Aerojet groundwater contamination plume was identified as having a potential to create a soil vapor intrusion scenario at the project site.

Figure 4.5-1
Existing Site Conditions



Underground Storage Tank and Fuel Storage Vessels

As part of a site reconnaissance survey conducted for the Phase I ESA, two steel pipes were observed protruding out of the ground within APN 073-0010-011 (3450 Grant Line Road). Per Youngdahl Consulting Group, Inc., the two protruding pipes have potential to be connected to an UST, which is considered an REC. In addition, the Phase I ESA identified an unknown underground system within APN 072-0300-008 adjacent to the shed located north of the residence. A 55-gallon drum was found northeast of the residence with an unknown liquid inside. Both the underground storage system and the drum are considered RECs if these vessels were used for fuel storage.

Asbestos-Containing Building Materials

Asbestos is a set of six naturally occurring silicate minerals used commercially for their desirable physical properties. The prolonged inhalation of asbestos fibers can cause serious illnesses including malignant lung cancer, mesothelioma, and asbestosis. In the industrialized world, asbestos was phased out of building products mostly in the 1970s, with most of the remainder phased out by the 1980s. For buildings constructed prior to 1980 (29 Code of Federal Regulations [CFR] 1926.11) all thermal system insulation and surface materials must be designated as presumed asbestos-containing building materials (ACBMs) unless proved otherwise through sampling. The residences and associated outbuildings within APN 072-0300-008 (12535 Douglas Road) were built sometime between 1975 and 1980; therefore, ACBM may be present within such structures. All other structures on the project site were found to have been built after 1980 and, thus, are unlikely to be contaminated with ACBMs.

Lead-Based Paint

Lead is considered to be a harmful environmental pollutant. Within the U.S., most homes and other buildings built before 1960 contain heavily leaded paint. Some homes built as recently as 1978 may also contain lead paint. Within the project site, the residence and outbuildings within APN 072-0300-008 (12535 Douglas Road) were built sometime between 1975 and 1980 and, thus, potentially contain lead-based paint. In addition, the Whitlow property (APN 072-0300-005, 12525 Douglas Road) contains a residence and associated outbuildings built sometime between 1980 and 1984; and the Divine property (APN 072-0300-002, 12565 Douglas Road) contains a residence that was built in 1994; while less likely, the potential exists for such structures to also contain lead-based paint.

Termiticides

Organochlorine termiticides (OC termiticides) are a group of persistent pesticides that were formerly used for termite control in and around wooden structures from the mid-1940s to the late 1980s. Such OC termiticides included chlordane, aldrin, dieldrin, heptachlor, and DDT. Chlordane and other organochlorine pesticides (OCPs) were commonly used as termiticides around structures until 1988. Above-ground use of chlordane was phased out between 1978 and 1983 by the U.S. Environmental Protection Agency (USEPA); although chlordane was used as a termiticide for wooden structures until it was prohibited in 1988. Due to the dates of construction, all wooden structures within the project site except for the Divine Property (APN 072-0300-002, 12565 Douglas Road) are at risk of having termiticides present, which is considered an REC.

Pesticides

Between the 1940s and 1970s, OCPs were commonly used in the U.S. for public health vector control, agricultural crop production, and pest control around structures. Although most OCPs were banned or withdrawn from use in the 1970s (including DDT), the compounds remain in the

environment where surface soils associated with historical agricultural and termite control pesticides are present. An orchard is visible starting in the 1984 historical aerial photo at the northeast corner of the subject site within APNs 073-0010-011 (3450 Grant Line Road) and 073-0010-010. The orchard is not shown in the 1980 topographic map. Per the Phase I ESA, due to the date in which the orchard was created, lead arsenate pesticides or OCPs are not likely to be present.

Domestic Wells and Septic Systems

Based on a records review conducted as part of the Phase I ESA, a domestic well was identified within the project site at 3450 Grant Line Road (073-0010-011). The well was permitted to be inactive in February 2015. Past sampling of the well for the Aerojet contamination plume showed that the well had trace levels of NDMA; the well did not contain any VOCs or perchlorate. The well was sealed in October 2014 and was planned for destruction; however, the well has not yet been destroyed at this time. Additional domestic wells were identified within APNs 072-0300-002, 072-0300-005, and 072-0300-008.

A septic system was identified within the lawn to the north of the existing residence at APN 072-0300-005. In addition, the Phase I ESA noted the possible presence of a septic tank adjacent to the northernmost shed on APN 072-0300-010.

Nearby Recognized Environmental Conditions

In an effort to fulfill due diligence requirements, Youngdahl Consulting Group, Inc. employed the services of Environmental Data Resources, Inc. (EDR) to identify sites listed on regulatory agency databases within approximate minimum search distances from the subject property with potential of existing environmental problems. The following sites were identified in the project vicinity:

- Aerojet General Corporation – U.S. Route 50 and Aerojet Road;
- North Douglas – Northeast of Douglas Road;
- American River Asphalt – 3417 Grant Line Road;
- Grantline Plant – 3417 Grant Line Road;
- Inactive Rancho Cordova Test Site (IRCT) – Nimbus Road;
- Automotive Importing MFG Inc. – 3920 Security Park Drive;
- General Electric Medical Systems – 3920 Security Park Drive.

With the exception of the groundwater plume associated with the Aerojet site, the Phase I ESA did not identify any potential risks to the project site associated with the above listed properties.

4.5.3 REGULATORY CONTEXT

The following discussion contains a summary of regulatory controls pertaining to hazardous substances, including federal, State, and local laws and ordinances.

Federal Regulations

Federal agencies that regulate hazardous materials include the USEPA, the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), and the National Institute of Health (NIH). Prior to August 1992, the principal agency at the federal level regulating the generation, transport, and disposal of hazardous waste was the USEPA under the authority of the Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the California DTSC was authorized to implement the State's hazardous waste management program

for the USEPA. The USEPA continues to regulate hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The following federal laws and related regulations govern hazardous materials.

Occupational Safety and Health Act

Congress passed the Occupational and Safety Health Act (29 U.S.C. Section 651 et seq. [1970]) to ensure worker and workplace safety. Their goal was to make sure employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. In order to establish standards for workplace health and safety, the Act also created the National Institute for Occupational Safety and Health (NIOSH) as the research institution for OSHA. OSHA is a division of the U.S. Department of Labor that oversees the administration of the Act and enforces standards in all 50 states. OSHA requires 40 hours of training for hazardous materials operators, as well as an annual eight-hour refresher course, which includes training regarding personal safety, hazardous materials storage and handling, and emergency response.

Comprehensive Environmental Response, Compensation, and Liability Act

The CERCLA (42 U.S.C. Section 9601 et seq. [1980]) provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, the USEPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. The USEPA cleans up orphan sites when potentially responsible parties cannot be identified or located, or when they fail to act. Through various enforcement tools, USEPA obtains private party cleanup through orders, consent decrees, and other small party settlements. The USEPA also recovers costs from financially viable individuals and companies once a response action has been completed. The USEPA is authorized to implement the Act in all 50 states and U.S. territories.

Superfund Amendments and Reauthorization Act of 1986

The Superfund Amendments and Reauthorization Act (SARA) of 1986, (Title III; Section 305(a)) reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. In addition, Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act (EPCRA). SARA, Title III provides funding for training in emergency planning, preparedness, mitigation, response, and recovery capabilities associated with hazardous chemicals. Title III of SARA addresses concerns about emergency preparedness for hazardous chemicals, and emphasizes helping communities meet their responsibilities in preparing to handle chemical emergencies and increasing public knowledge and access to information on hazardous chemicals present in their communities.

Resource Conservation and Recovery Act

The RCRA (42 U.S.C. Section 6901 et seq. [1976]) gives USEPA the authority to control hazardous waste from the "cradle-to-grave," which includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum

and other hazardous substances. The federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for USEPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. States have the authority to implement individual hazardous waste programs in lieu of the RCRA as long as the state program is as stringent as federal RCRA requirements and is approved by the USEPA.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 (15 U.S.C. Section 2601 et seq. [1976]) provides USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides. TSCA addresses the production, importation, use, and disposal of specific chemicals including PCBs, asbestos, radon, and lead-based paint.

U.S. Department of Transportation

Transportation of hazardous materials is regulated by the DOT's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported, and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Asbestos Hazard Emergency Response Act

The 1986 Asbestos Hazard Emergency Response Act (AHERA) was signed into law as Title II of the TSCA, requiring the Asbestos Model Accreditation Plan (MAP) for accrediting individuals conducting asbestos inspection and corrective-action activities in schools and public and commercial buildings. The MAP provides guidance on the minimum training requirements for accrediting asbestos professionals such as, procedural entry, exit, sampling, and monitoring, safety hazards, and relevant federal, state, and local regulatory standards.

Lead-based Paint Regulations

Lead pollutants are regulated by several laws administered by the USEPA, including the Toxic TSCA, the Residential Lead-Based Paint Hazard Reduction Act of 1992, the California Apartment Association (CAA), the California Waterfowl Association (CWA), the Safe Drinking Water Act (SDWA), the RCRA, and CERCLA. The aforementioned regulations address lead in paint, dust and soil, lead in air and water, and the disposal of lead wastes. Regulations specific to lead-based

paint include, but are not limited to, the Lead Renovation Repair and Painting Program Rule, the Lead Abatement Program, the residential Lead-based Paint Disclosure Program, and Residential Hazards of Lead in Paint, Dust and Soil. Such regulations require risk assessments, inspections, and work practices that work to minimize exposure to lead hazards.

State Regulations

The CalEPA and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Within CalEPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL). The following discussion contains the applicable State laws.

Regional Water Quality Control Board

The CalEPA and the Office of Emergency Services (OES) establish regulations governing the use of hazardous materials in California. Within CalEPA, DTSC has primary regulatory responsibility for hazardous waste management. Enforcement of regulations can be delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the HWCL. Along with the DTSC, the Regional Water Quality Control Board (RWQCB) is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. The RWQCB's regulations are contained in Title 27 of the California Code of Regulations (CCR). The DTSC, RWQCB, and/or a local agency typically oversees investigation and cleanup of contaminated sites.

Department of Toxic Substances Control

The DTSC was established to protect California against threats to public health and degradation to the environment and to restore properties degraded by past environmental contamination. Through statutory mandates, DTSC cleans up existing contamination, regulates management of hazardous wastes, and prevents pollution by working with businesses to reduce hazardous waste and use of toxic materials in California. DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. In addition, DTSC's Site Mitigation and Brownfields Reuse Program oversees the cleanup of State Superfund Sites. State Superfund sites are additionally known as Annual Workplan sites, listed sites, or Cortese List sites. Superfund sites demonstrate evidence of a hazardous substance release or releases that could pose a significant threat to public health and/or the environment. DTSC requires responsible parties to cleanup such sites. When responsible parties cannot be found or where they do not take proper and timely action, DTSC may use State funds to undertake the cleanup.

California Code of Regulations

Hazardous waste is characterized and defined in CCR, Title 22, Sections 66261.20-24. Soils that meet the descriptions of the characteristics of hazardous waste defined in Sections 66261.20-24 and contain contaminants above regulatory screening levels are considered hazardous waste and must be handled and disposed of as such. The CCR includes the California Health and Safety Code.

California Health and Safety Code

The handling and storage of hazardous materials is regulated on the federal level by the USEPA under CERCLA as amended by the SARA. Under SARA Title III, a nationwide emergency

planning and response program was established that imposed reporting requirements for businesses which store, handle, or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. SARA Title III required each state to implement a comprehensive system to inform federal authorities, local agencies, and the public when a significant quantity of hazardous, acutely toxic substances are stored or handled at a facility.

Ammonia is an example of an acutely hazardous material (AHM) that is regulated by the California Office of Emergency Services under the California Accidental Release Program (CalARP), the USEPA under the Risk Management Program (40 CFR 68), and the OSHA under the Process Safety Management Program (OSHA 1910.119). The CalARP and Risk Management Program require that all facilities that store, handle, or use AHMs above a minimum quantity, known as the threshold planning quantity, are required to develop a plan and prepare supporting documentation that summarizes the facility's potential risk to the local community and identifies safety measures to reduce potential risks to the public.

The HWCL, Chapter 6.5 of the California Health and Safety Code, is administered by the Cal-EPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both the State and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

In California, the underground storage of hazardous materials is regulated by Chapter 6.7 of the California Health and Safety Code per the Underground Storage of Hazardous Substances Act. Under section 25280, the USTs used for the storage of substances hazardous to the public health and safety and to the environment are stored prior to use or disposal in thousands of underground locations in the State. The USTs are potential sources of contamination of the ground and underlying aquifers, and may pose other dangers to public health and the environment. Chapter 6.7 establishes orderly procedures that will ensure that newly constructed USTs meet appropriate standards and that existing tanks be properly maintained, inspected, tested, and upgraded so that the health, property, and resources of the people of the state will be protected.

California Vehicle Code Section 31303

The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. California Vehicle Code Section 31303 regulates the transport of hazardous materials.

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 material incidents is one part of this plan. The plan is managed by the Governor's OES, which coordinates the responses of other agencies, including CalEPA, CHP, California Department of Fish and Wildlife (CDFW), and the Central Valley RWQCB.

Unified Hazardous Materials Management Regulatory Program

On January 1, 1996, CalEPA adopted implementing regulations and implemented a unified hazardous waste and hazardous materials management regulatory program (Unified Program), to consolidate the administration of specified statutory requirements for the regulation of hazardous wastes and materials. The Unified Program is implemented at the local level by government agencies certified by the Secretary of CalEPA. The Certified Unified Program Agency (CUPA) is responsible for implementation of the Unified Program. CUPA is certified and responsible for oversight of the following consolidated programs: Hazardous Materials Release Response Plans and Inventories (Business Plans); California Accidental Release Program; Underground Storage Tank Program; Aboveground Petroleum Storage Act; Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs; and California Uniform Fire Code: Hazardous Materials Management Plans and Hazardous Material Inventory Statements.

Local Regulations

Relevant goals and policies from the County of Sacramento and the City of Rancho Cordova General Plan related to hazards and hazardous materials are discussed below.

Sacramento County

The County of Sacramento OES implements the State's Right-to-Know Ordinance that gives the OES the authority to inventory hazardous materials used by businesses. The County is also in the process of collecting information regarding existing and proposed locations of hazardous material disposal, storage, handling, and transportation facilities.

Additionally, the Sacramento County Environmental Management Department (EMD) is responsible for enforcing the State regulations on both the city and county level, governing hazardous waste generators, hazardous waste storage, underground storage tanks (including inspections, enforcement, and removals), and environmental health (including inspections and enforcement). Sacramento County's Environmental Management Department has been designated as the Sacramento region's CUPA by CalEPA. The Program is housed within Department's Environmental Compliance Division. CUPA Programs are administered throughout the County of Sacramento and its incorporated cities, including the City of Rancho Cordova.

EMD also regulates the use, storage, and disposal of hazardous materials in the County and abandonment of wells and septic systems in the County by issuing permits, monitoring regulatory compliance, investigating complaints, and other activities. EMD reviews technical aspects of hazardous waste site cleanups, and oversees remediation of certain contaminated sites resulting from leaking underground storage tanks. EMD is also responsible for providing technical assistance to public and private entities that seek to minimize the generation of hazardous waste.

Sacramento County Area Plan

The Sacramento County EMD established the Sacramento County Area Plan (SCAP) as a guideline for hazardous material related accidents or occurrences. The purpose of the SCAP is "to delineate responsibilities and actions by various agencies in Sacramento County required to meet the obligation to protect the health and welfare of the populace, natural resources (environment), and the public and private properties involving hazardous materials." The SCAP is used for making initial decisions at a hazardous materials incident. The SCAP uses Level I, Level II and Level III classifications for hazardous material incidents, which are determined by the following planning basis:

- Level of technical expertise required to abate the incident;
- Extent of Municipal, County, and State Government involved;
- Extent of evacuation of civilians; and
- Extent of injuries and/or deaths.

Sacramento County Multi-Hazard Disaster Plan

The Sacramento County Multi-Hazard Disaster Plan (SCMDP) was established to address a planned response to extraordinary emergency situations associated with natural disasters and technological incidents. The SCMDP focuses on operational concepts related to large-scale disasters, which can pose major threats to life and property requiring unusual emergency responses. The SCMDP was designed to include Sacramento County as part of the California Standardized Emergency Management System (SEMS), which assigns responsibilities to support implementation of the SCMDP and to ensure successful response during a major disaster.

City of Rancho Cordova General Plan

The following goals and policies from the City of Rancho Cordova General Plan related to hazards and hazardous materials are applicable to the proposed project:

Goal S.1: Establish Rancho Cordova as a safe community and environment for all persons.

Policy S.1.5 The City shall require written confirmation from applicable local, regional, state, and federal agencies that known contaminated sites have been deemed remediated to a level appropriate for land uses proposed prior to the City approving site development or provide an approved remediation plan that demonstrates how contamination will be remediated prior to site occupancy. This documentation will specify the extent of development allowed on the remediated site as well as any special conditions and/or restrictions on future land uses.

Goal S.5: Reduce the possibility of serious harm to residents, employees, or the environment as the result of an accidental release of toxic or hazardous substances.

Policy S.5.2 Consider the potential impact of hazardous facilities on the public and/or adjacent or nearby properties posed by reasonably foreseeable events. The City considers an event to be “reasonably foreseeable” when the probability of the event occurring is greater than one in one million per year.

Policy S.5.3 Regulate the storage of hazardous materials and waste consistent with State and Federal law.

Policy S.5.5 Separate hazardous or toxic materials from the public.

4.5.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to hazards and hazardous materials. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

In accordance with CEQA Guidelines Appendix G, an impact is considered significant if the proposed project would:

- Create a significant hazard to the public or the environment through the routine handling, transport, use, or disposal of hazardous materials; or
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

Issues Not Discussed Further

The Initial Study prepared for the proposed project (see Appendix A) determined that development of the proposed project would result in no impact or a less-than-significant impact related to the following impacts:

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires; and/or
- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:
    - Substantially impair an adopted emergency response plan or emergency evacuation plan;
    - Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
    - Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
    - Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Method of Analysis

Site conditions and impacts for this chapter are based primarily on the Phase I ESA prepared for the project site. The goal of a Phase I ESA is to identify whether RECs exist at a property, where RECs are defined by ASTM as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. […]." The Phase I ESA meets or exceeds the requirements of the ASTM "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E 1527-05."

The Phase I ESA included a review of federal, State, and local environmental databases for information regarding documented and suspected releases of regulated materials within the project site vicinity based upon reference to an environmental database search performed by EDR, an environmental database search firm. Additional historical use information regarding the project site and surrounding properties was pulled from the following sources:

- Aerial photographs;
- Fire insurance (Sanborn) maps;
- Building department records;
- Chain-of-title documents;
- City directory abstracts;
- Land use records; and
- U.S. Geological Survey (USGS) Topographic Maps.

Historical photographs of the project site dating to 1937 and historic topographic maps dating to 1891 were reviewed to provide a historical context of the project site. In addition, a site reconnaissance of the project site was conducted on May 9, 2019. The site reconnaissance consisted of walking the project site and driving by nearby adjacent properties from public vantages to observe apparent uses. Photographs of the site were taken during the site reconnaissance.

Project-Specific Impacts and Mitigation Measures

The project site conditions have been compared to the standards of significance presented above in order to determine the project's impact significance. If significant impacts are identified for the construction and operational phases of the proposed project, recommended mitigation measures have been included to reduce the identified impacts to less-than-significant levels.

4.5-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Based on the analysis below, the impact is *less than significant*.

A significant hazard to the public or the environment could result from the routine transport, use, or disposal of hazardous materials. Projects that involve the routine transport, use, or disposal of hazardous materials are typically industrial in nature. The proposed project would not be industrial in nature. Operations of the proposed 440-unit single-family residential project would not include any activities that would involve the routine transport, use, disposal, or generation of substantial amounts of hazardous

materials. During operations, hazardous material use would be limited to landscaping products such as fertilizer, pesticides, as well as typical commercial and maintenance products (cleaning agents, degreasers, paints, batteries, and motor oil). Proper handling and usage of such materials in accordance with label instructions would ensure that adverse impacts to human health or the environment would not result. Thus, operations of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction activities associated with implementation of the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and various other products such as concrete, paints, and adhesives. The project contractor is required to comply with all California Health and Safety Codes and local County ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Pursuant to California Health and Safety Code Section 25510(a), except as provided in subdivision (b),[6] the handler or an employee, authorized representative, agent, or designee of a handler, shall, upon discovery, immediately report any release or threatened release of a hazardous material to the unified program agency (in the case of the proposed project, the Sacramento County EMD) in accordance with the regulations adopted pursuant to Section 25510(a). The handler or an employee, authorized representative, agent, or designee of the handler shall provide all State, city, or county fire or public health or safety personnel and emergency response personnel with access to the handler's facilities. In the case of the proposed project, the contractors are required to notify the Sacramento County EMD in the event of an accidental release of a hazardous material, who would then monitor the conditions and recommend appropriate remediation measures.

Based on the above, the project would not create a significant hazard to the public or the environment through the routine handling, transport, use, or disposal of hazardous materials. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.5-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed previously, the Phase I ESA identified various potential RECs and other hazards on the project site, including groundwater contamination/soil vapor intrusion, an on-site UST and other potential fuel storage vessels, asbestos, lead-based paint, and termiticides. In addition, the Phase I ESA noted the presence of domestic wells and septic systems within the site. The potential for development of the proposed

[6] Subdivision (a) does not apply to a person engaged in the transportation of a hazardous material on a highway that is subject to, and in compliance with, the requirements of Sections 2453 and 23112.5 of the Vehicle Code.

project to result in risks or hazards related to such existing environmental hazards is described below.

Groundwater Contamination

Per the Phase I ESA, a contaminant plume of TCE was discovered to encroach within portions of the northernmost parcels within the project site (APNs 072-0300-001, 072-0300-008, and 073-001-011. The five ppb contour of TCE (the maximum contaminant level) extends to onsite and adjacent monitoring wells, but does not extend to any domestic wells identified on the project site. Although existing domestic wells aren't necessarily impacted, the presence of TCE within project site has potential to create a soil vapor intrusion risk.

The proposed project would not include development of residential uses on any of the three potentially impacted parcels. Rather, the 185.3 acres of open space area within the northern portion of the site would not be disturbed, as this portion of the project site would not be included in development of the proposed project. Therefore, the proposed residential uses would not be subject to risks related to groundwater contamination or vapor intrusion. In addition, ground-disturbing activities associated with project construction would not have the potential to result in upset of contaminated soils. Thus, a less-than-significant impact would occur.

Underground Storage Tank and Other Fuel Storage Vessels

Within APN 073-0010-011, Youngdahl Consulting Group, Inc. identified two protruding steel pipes that have the potential to be connected to a UST, which is considered an REC. The California Health and Safety Code, the CCR, and the Sacramento County Code of Ordinances require that a UST owner or operator must obtain a permit from the Sacramento County EMD to remove a UST. In addition, the Phase I ESA identified an unknown underground system within APN 072-0300-008 adjacent to the shed located north of the residence, as well as a 55-gallon drum was found northeast of the residence with an unknown liquid inside. Development of the proposed project would require removal of the potential UST, the underground system on APN 072-0300-008, and the 55-gallon drum, all of which are considered potential RECs. Given that such RECs could pose a risk to workers during project construction, a significant impact could occur.

Asbestos and Lead-Based Paint

Per the Phase I ESA, ACBM may be present within the existing residences and associated outbuildings located within APN 072-0300-008. In addition, lead-based paint may be present within all of the on-site structures. The potential presence ACBMs and lead contamination is considered an REC. During demolition and ground-disturbing activities associated with the proposed project, construction workers could come into contact with, and be exposed to, ACBMs or lead-based paint materials present in the existing structures. Additionally, workers could potentially be exposed to elevated concentrations of lead in the soil in the vicinity of the structures. Collection and disposal of ACBMs and lead materials, including lead-based paint, by untrained personnel could cause asbestos and lead dust emissions to be transported off-site, resulting in the release of hazardous material into the environment. Thus, a significant impact could occur.

Termiticides

As discussed above, the soils in the vicinity of the wooden structures located on APN 072-0300-002 (12565 Douglas Road) and APN 072-0300-008 (12535 Douglas Road) are at risk of having termiticides present, which is considered an REC. Additional sampling is necessary to evaluate the potential presence of termiticides in the soils.

Domestic Wells and Septic Systems

The Phase I ESA identified existing wells located on APNs 073-0010-011, 072-0300-002, 072-0300-005, and 072-0300-008. Proper abandonment of these wells would need to occur in accordance with the standards set forth in Department of Water Resources Bulletin 74-81. As discussed in Part III of Bulletin 74-81, the top of the well or well casing shall be provided with a cover, that is secured by a lock or by other means to prevent its removal without the use of equipment or tools, to prevent unauthorized access, to prevent a safety hazard to humans and animals, and to prevent illegal disposal of wastes in the well. The cover shall be watertight where the top of the well casing or other surface openings to the well are below ground level, such as in a vault or below known levels of flooding.

All abandoned wells shall be destroyed. The objective of destruction is to restore as nearly as possible those subsurface conditions which existed before the well was constructed taking into account changes, if any, which have occurred since the time of construction. Destruction of a well shall consist of the complete filling of the well in accordance with Section 23 of Part III of Bulletin 74-81. As discussed further below, Mitigation Measure 4.5-2(e) is proposed to ensure any existing wells that need to be removed are abandoned in conformance with all applicable laws.

A septic system was identified within the lawn to the north of the existing residence at APN 072-0300-005. In addition, the Phase I ESA noted the possible presence of a septic tank adjacent to the northernmost shed on APN 072-0300-010. The proposed project would be required to properly abandon all existing septic systems prior to connection of the project to the existing County sewer infrastructure.

Conclusion

Based on the above, groundwater contamination would not pose a substantial risk to workers or residents on the project site. However, the potential UST, unknown underground storage system, and other potential fuel storage vessels located within APNs 073-0010-011 and 072-0300-008 could pose a risk to workers during project construction. In addition, the project site contains existing structures that were built prior to 1980 and 1970, and are likely to contain ACBMs and lead-based paints. Furthermore, the soils in the vicinity of the wooden structures located at APN 072-0300-002 and APN 072-0300-008 have the potential to be contaminated with termiticides.

Therefore, implementation of the proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.5-2(a) *Prior initiation of demolition or construction activities associated with the proposed project, the project applicant shall complete and submit, for both the underground storage units identified on APNs 073-0010-011 and 072-0300-008, a Consolidated Application For Authority to Remove Under Ground Storage Tanks to the Sacramento County Environmental Management Department (EMD) for review. Upon issuance of a permit (Authority Letter to Remove) from the EMD, removal of the UST shall proceed in accordance with all permit conditions, including, but not limited to, inspection, testing, and plan/report submittal requirements.*

4.5-2(b) *Prior initiation of demolition or construction activities associated with the proposed project, the project applicant shall retain a licensed contractor to remove the existing 55-gallon drum located on APN 072-0300-008, to the northeast of the existing residence. The drum shall be disposed of in accordance with all applicable federal, State, and local regulations related to the handling, transport, and disposal of hazardous waste. Proof of safe disposal shall be provided to the Community Development Department.*

4.5-2(c) *Prior to issuance of a demolition permit for any on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Community Development Department an asbestos and lead survey. If asbestos-containing materials or lead-containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead containing materials shall not be required. If asbestos-containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the Community Development Department for review and approval. Materials containing more than one (1) percent asbestos that is friable are also subject to SMAQMD regulations. Removal of materials containing more than one (1) percent friable asbestos shall be completed in accordance with SMAQMD Rule 902.*

4.5-2(d) *Prior to issuance of a demolition permit for any on-site structures, the project applicant shall retain the services of a licensed environmental professional to prepared a Phase II Environmental Assessment (ESA) for the project site. The Phase II ESA shall evaluate, at a minimum, potential lead contamination in the soils in the vicinity of the structures located on APN 072-0300-008, as well as potential termiticide contamination in the soils in the vicinity of the wooden structures located on APN 072-0300-002 and APN 072-0300-008. In the event that the lead and/or termiticide contamination is determined to occur, the project applicant shall implement all recommended measures in the Phase II ESA necessary to address such hazards. Such measures may include, but shall not be limited to, capping contaminated soil in place and deed-restricting the subject property, excavation and off-haul of contaminated soils by a licensed contractor, or other appropriate methods deemed acceptable by the Sacramento County Environmental Management Department (EMD).*

4.5-2(e) *Prior to Improvement Plan approval, the applicant shall hire a licensed well contractor to obtain a well abandonment permit from the Sacramento County Environmental Management Department (EMD) for all on-site wells, and properly abandon the on-site wells, pursuant to Department of Water Resources Bulletin 74-81 (Water Well Standards, Part III), for review and approval by the EMD. In addition, prior to Improvement Plan approval, the project applicant shall ensure that any on-site septic systems are abandoned in compliance with applicable EMD standards. Verification of abandonment shall be ensured by the City of Rancho Cordova Community Development Department.*

4.5-2(f) *If unidentified or suspected contaminated soil or groundwater evidenced by stained soil, noxious odors, or other factors, is encountered during site preparation or construction activities at the project site, work shall stop in the area of potential contamination, and the type and extent of contamination shall be identified by a Registered Environmental Assessor (REA) or qualified professional. The REA or qualified professional shall prepare a report that includes, but is not limited to, activities performed for the assessment, summary of anticipated contaminants and contaminant concentrations, relevant environmental screening levels for identified contaminants, whether the contaminants exceed ESLs, thus warranting remediation, and recommendations for appropriate handling and disposal. Site preparation or construction activities shall not recommence within the contaminated areas until any necessary remediation identified in the report is complete. The report and verification of proper remediation and disposal shall be submitted to the City of Rancho Cordova Community Development Department for review and approval.*

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

4.5-3 Cumulative exposure to potential hazards and increases in the transport, storage, and use of hazardous materials. Based on the analysis below, the cumulative impact is *less than significant*.

As discussed, project-specific impacts associated with hazardous materials related to implementation of the proposed project were found to be less than significant with implementation of mitigation. Hazardous materials and other public health and safety issues are generally site-specific and/or project-specific, and would not be significantly affected by other development within the project area. Cumulative development projects would be subject to the same federal, State, and local hazardous materials management requirements as would the proposed project, which would minimize potential risks associated with increased hazardous materials use in the community. Therefore, cumulative impacts associated with hazardous materials transport, storage, and use associated with implementation of past, present, and reasonably foreseeable future projects, as well as the proposed project, would be ***less than significant***.

Mitigation Measure(s)

None required.

4.6 Hydrology and Water Quality

4.6. HYDROLOGY AND WATER QUALITY

4.6.1 INTRODUCTION

The Hydrology and Water Quality chapter of the EIR describes existing drainage patterns on the project site, current stormwater flows and stormwater infrastructure. The chapter also evaluates potential impacts of the proposed project with respect to increases in impervious surface area and associated stormwater flows, degradation of water quality, and increases in on- and off-site flooding. Information used for this chapter was primarily drawn from the Drainage Study prepared for the proposed project by Ruggeri-Jensen-Azar (see Appendix H),[1] as well as the City of Rancho Cordova General Plan[2] and associated EIR.[3] It should be noted that issues associated with water supply and availability are addressed in Chapter 4.9, Public Services and Utilities, of this EIR.

4.6.2 EXISTING ENVIRONMENTAL SETTING

The section below describes regional hydrology, the existing drainage patterns within the project site, including peak flows, existing water quality, and groundwater conditions.

Regional Hydrology

The City of Rancho Cordova is located within the 27,000 square mile Sacramento River watershed, which includes the Sacramento, American, and Cosumnes Rivers. The American River is located along the northern boundary of the City's Planning Area and the Cosumnes River is located to the south of the Planning Area. More specifically, the project site is located within the Morrison Creek Stream Group watershed, which covers 192 square miles, and includes the waterways of Elder, Rancho Cordova, Florin, Gerber, Laguna (and tributaries), Morrison, Strawberry, Union House, and Whitehouse Creeks, which generally flow in a southwesterly direction (see Figure 4.6-1). The Morrison Creek Stream Group watershed ultimately flows to the Sacramento River. The topography within the Planning Area includes gently rolling terrain, such as that found in the eastern Great Central Valley, interrupted by numerous seasonal creeks and streams. Such creeks and streams are largely ephemeral and intermittent, which is typical of areas that experience dry summers and cool, wet winters, as is the case for the project region.

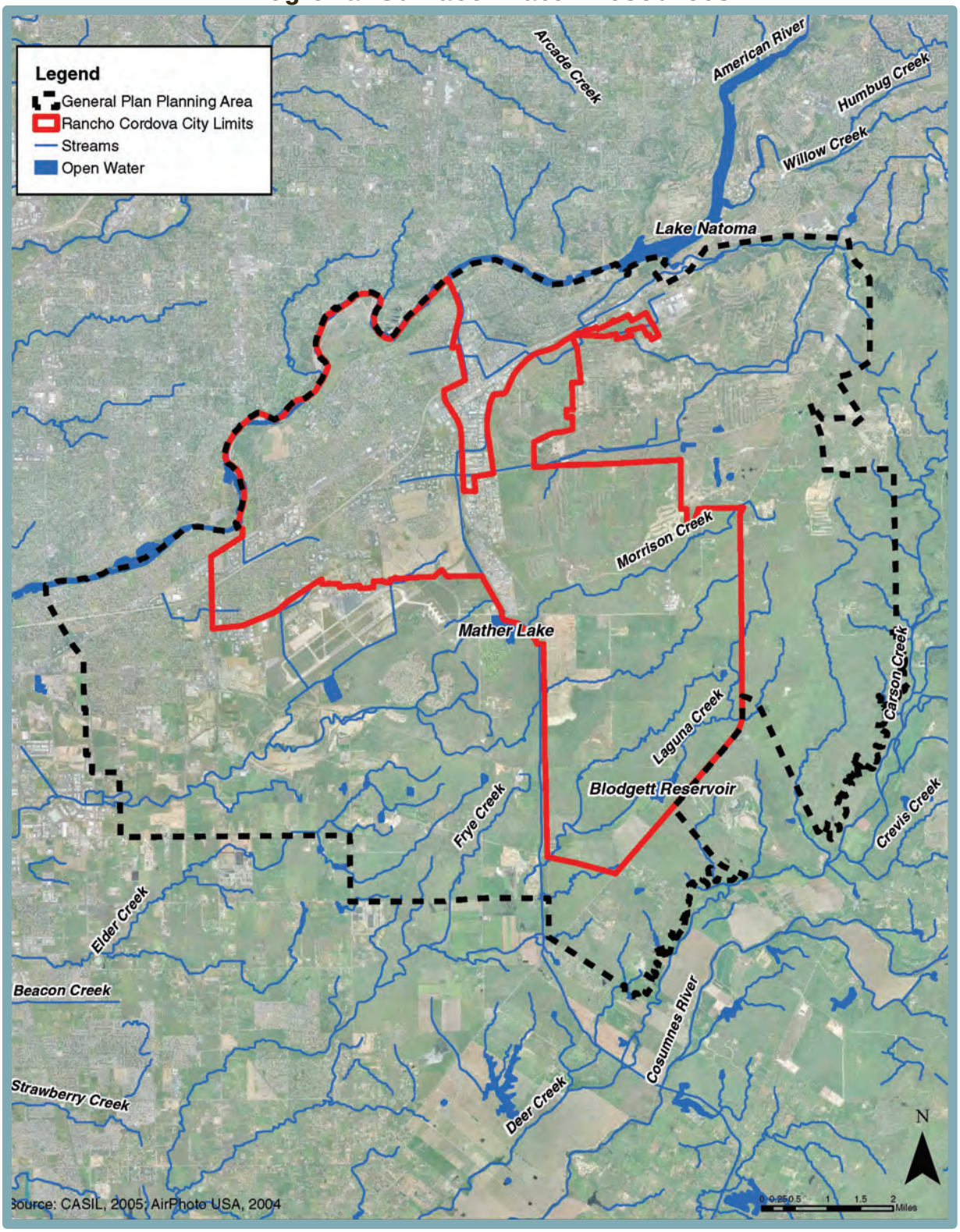
Project Site and Surrounding Area Drainage

Currently, the 279.3-acre project site contains two single-family residences and associated outbuildings on the southern portion of the site, within parcels 072-0300-002 and -005. An orchard is located within the northeastern portion of the site within parcel 073-0010-011, and a third single-family residence and associated outbuildings are located on APN 072-0300-008. The remainder of the site consists primarily of ruderal grasses. Morrison Creek conveys runoff from the east side of Grant Line Road at the project site's eastern boundary through the project limits to the western edge of the project site. Two man-made ponds are located along the reach of Morrison Creek near the northwestern portion of the project site. The existing on-site drainage conditions are shown in Figure 4.6-2.

---

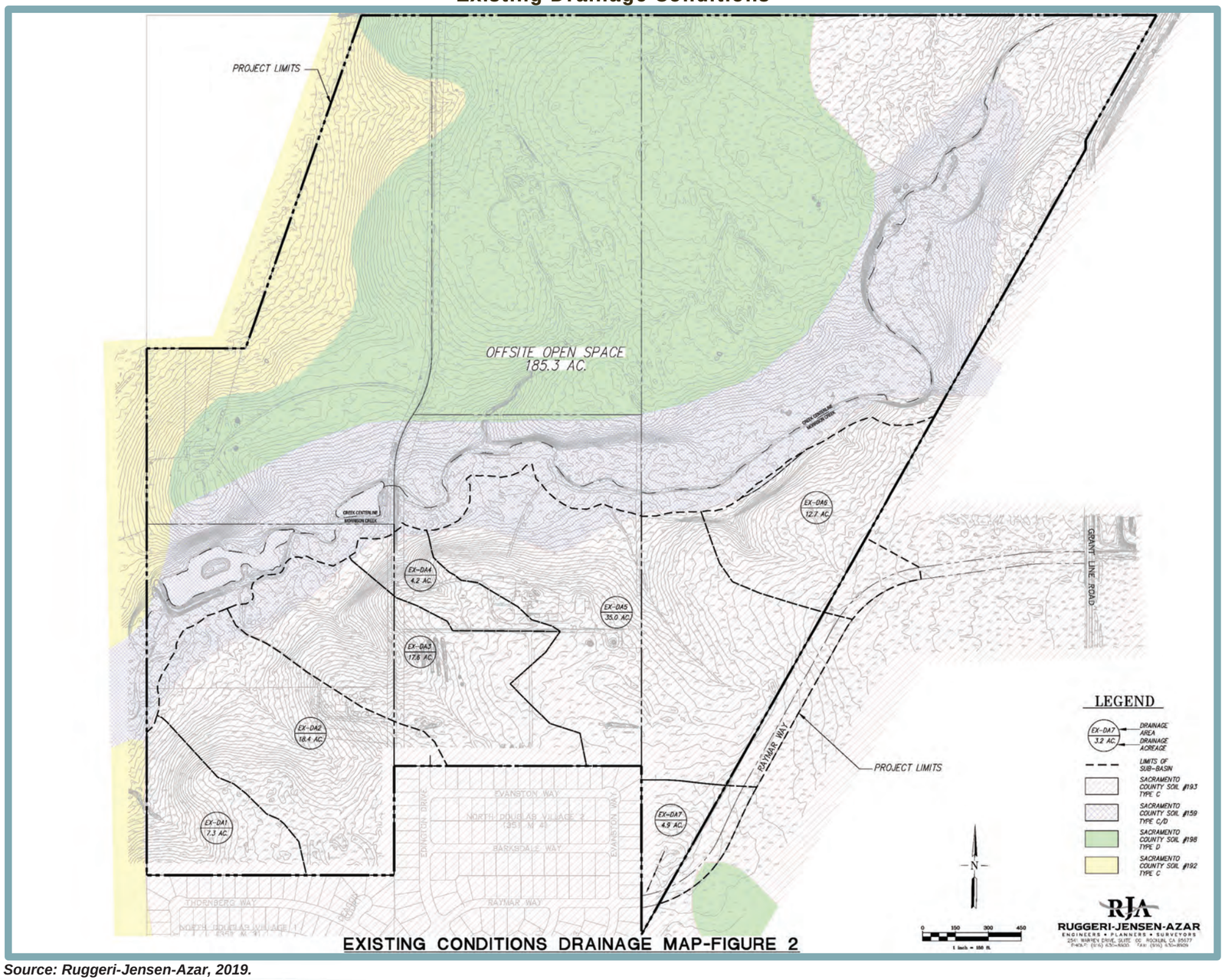
1 Ruggeri-Jensen-Azar. *Drainage Study for the Preserve.* Updated October 2019.
2 City of Rancho Cordova. *General Plan*. Adopted June 26, 2006.
3 City of Rancho Cordova. *General Plan Environmental Impact Report.* 2006.

Figure 4.6-1
Regional Surface Water Resources



Source: City of Rancho Cordova, General Plan EIR [Figure 4.9-1], 2006.

Figure 4.6-2
Existing Drainage Conditions



Source: Ruggeri-Jensen-Azar, 2019.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the project area, the entirety of the project site is located within Zone X, defined as an area of minimal flood hazard that is located outside of the designated 100-year floodplain.[4]

According to the Drainage Study prepared for the proposed project, the existing 10-year, 24-hour and 100-year, 24-hour storm flowrates for Morrison Creek are 194 cubic feet per second (cfs) and 361 cfs, respectively. The flowrates were developed for the Master Drainage Study (MDS) for the Rio Del Oro Specific Plan in August 2005 by Wood Rodgers and include a total drainage area of 1,003 acres consisting of the area identified within the MDS as US3 (Figure F from the MDS; included in Appendix H to this EIR), including the project site, which forms the western boundary of the US3 drainage area. It should be noted that the northwestern portion of the project site, which is included in drainage area US2 of the MDS, would not be developed as part of the proposed project and, thus, the drainage conditions in that shed are not discussed further herein.

As calculated at the location of the proposed stormwater outfall location into Morrison Creek, pre-development runoff rates from the project site are 79 cfs for the 10-year, 24-hour storm event and 134 cfs for the 100-year, 24-hour storm event.

Water Quality

Activities and/or conditions that have the potential to degrade water quality include but are not limited to, construction activities and urban stormwater runoff.

Construction activities have the potential to cause erosion and sedimentation associated with groundbreaking and clearing activities, which could cause unstabilized soil to be washed or wind-blown into nearby surface water. In addition, the use of heavy equipment during construction activities, especially during rainfall events, have the potential to cause petroleum products and other pollutants to enter nearby drainages.

Water quality degradation from urban stormwater runoff is primarily the result of runoff carrying pollutants from the land surface (i.e., streets, parking lots, etc.) to the receiving waters (i.e., streams and lakes). Pollutants typically found in urban runoff include facility maintenance and lawn-care/landscaping chemicals (insecticides, herbicides, fungicides and rodenticides), heavy metals (such as copper, zinc and cadmium), oils and greases from automobiles and other mechanical equipment, and nutrients (nitrogen and phosphorus).

Groundwater

The proposed project site is located within the South American Subbasin. The South American Subbasin is bounded on the east by the Sierra Nevada Mountains, on the west by the Sacramento River, on the north by the American River, and on the south by the Cosumnes and Mokelumne Rivers. As part of the South American Subbasin, the Rancho Cordova Planning Area covers a shallow unconfined aquifer system, known as the water table aquifer, approximately 200 hundred feet below ground surface, and a deeper confined groundwater aquifer system ranging from a few hundred feet to over 2,000 feet below ground surface. The deeper aquifer system that becomes confined with depth is separated from the shallow aquifer by a discontinuous clay layer, not completely impermeable.

[4] Federal Emergency Management Agency. *Flood Insurance Rate Map, Map Number 06067C0250H.* August 16, 2012.

The groundwater in the Central Basin portion of the South American Subbasin within which the project site is located is managed by the Sacramento Central Groundwater Authority (SCGA).[5] The SCGA was formed in 2006 through a joint powers agreement signed by the cities of Elk Grove, Folsom, Rancho Cordova, and Sacramento, and the County of Sacramento. SCGA was formed for several purposes including maintaining the long-term sustainable yield of the Central Basin, managing the use of groundwater in the Central Basin, and facilitating the implementation of a conjunctive use program. The SCGA Groundwater Management Plan, which was adopted in 2006, establishes a framework for maintaining sustainable groundwater resources in the Central Basin. The framework includes specific goals, objectives, and an action plan to manage the basin. The SCGA Groundwater Management Plan also prescribes a well protection program to protect existing private domestic well and agricultural well owners from declining groundwater levels resulting from increased groundwater pumping due to new development in the basin. The SCGA Groundwater Management Plan includes a detailed groundwater management implementation plan to comply with the requirements of their basin management objectives. Additionally, SCGA prepares a biennial report to evaluate progress on Groundwater Management Plan implementation and to report on basin conditions.

4.6.3 REGULATORY CONTEXT

The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of hydrology and water quality under the CEQA process.

Federal Regulations

The following section includes federal environmental goals and policies relevant to the CEQA review process pertaining to the hydrology and water quality aspects of the proposed project.

Federal Emergency Management Agency

The FEMA is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers (USACE) studies. FEMA is also responsible for distributing the FIRMs, which are used in the National Flood Insurance Program (NFIP). The FIRMs identify the locations of special flood hazard areas, including the 100-year floodplains.

FEMA allows non-residential development in the floodplain; however, construction activities are restricted within flood hazard areas, depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR). These standards are implemented at the State level through construction codes and local ordinances; however, these regulations only apply to residential and non-residential structure improvements. Although roadway construction or modification is not explicitly addressed in the FEMA regulations, the California Department of Transportation (Caltrans) has also adopted criteria and standards for roadway drainage systems and projects situated within designated floodplains. Standards that apply to floodplain issues are based on federal regulations (Title 23, Part 650 of the CFR). At the State level, roadway design must comply with drainage standards included in Chapters 800-890 of the Caltrans Highway Design Manual. CFR Section 60.3(c)(10) restricts cumulative development from increasing the water surface elevation of the base flood by more than one foot within the floodplain.

[5] Sacramento County Water Agency. *2015 Urban Water Management Plan.* May 2016.

Federal Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the federal Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the Environmental Protection Agency (EPA) must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements. However, two types of nonpoint source discharges are controlled by the NPDES program – nonpoint source discharge caused by general construction activities, and the general quality of stormwater in municipal stormwater systems. The 1987 amendments to the CWA directed the federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by EPA that are not included in Phase I.

Section 402 of the CWA mandates that certain types of construction activities comply with the requirements of the NPDES stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than one acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated with Construction Activity, issued to the State Water Resources Control Board (SWRCB), implemented and enforced by the nine Regional Water Quality Control Boards (RWQCBs).

As of July 1, 2010, all dischargers with projects that include clearing, grading or stockpiling activities expected to disturb one or more acres of soil are required to obtain compliance under the NPDES Construction General Permit Order 2009-0009-DWQ. The General Permit requires all dischargers, where construction activity disturbs one or more acres, to take the following measures:

1. Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to include a site map(s) of existing and proposed building and roadway footprints, drainage patterns and stormwater collection and discharge points, and pre- and post- project topography;
2. Describe types and placement of Best Management Practices (BMPs) in the SWPPP that will be used to protect stormwater quality;
3. Provide a visual and chemical (if non-visible pollutants are expected) monitoring program for implementation upon BMP failure; and
4. Provide a sediment monitoring plan if the area discharges directly to a water body listed on the 303(d) list for sediment.

To obtain coverage, a SWPPP must be submitted to the RWQCB electronically and a copy of the SWPPP must be submitted to the City of Rancho Cordova. When project construction is completed, the landowner must file a Notice of Termination (NOT).

State Regulations

The following section includes the State regulations relevant to the CEQA review process pertaining to the hydrology and water quality aspects of the proposed project.

State Water Resources Control Board

The SWRCB and the RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. The project site is situated within the jurisdictional boundaries of the Central Valley RWQCB (CVRWQCB) (Region 5). The CVRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within their jurisdiction.

Central Valley Regional Water Quality Control Board

As authorized by the Porter-Cologne Water Quality Control Act, the CVRWQCB primary function is to protect the quality of the waters within its jurisdiction for all beneficial uses. State law defines beneficial uses of California's waters that may be protected against quality degradation to include, but not be limited to: domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

The CVRWQCB implements water quality protection measures by formulating and adopting water quality control plans (referred to as basin plans, as discussed below) for specific groundwater and surface water basins, and by prescribing and enforcing requirements on all agricultural, domestic, and industrial waste discharges. The CVRWQCB oversees many programs to support and provide benefit to water quality, including the following major programs: Agricultural Regulatory; Above-Ground Tanks; Basin Planning; CALFED; Confined Animal Facilities; Landfills and Mining; Non-Point Source; Spills, Leaks, Investigations, and Cleanups (SLIC); Stormwater; Total Maximum Daily Load (TMDL); Underground Storage Tanks (UST), Wastewater Discharges (including the NPDES); Water Quality Certification; and Watershed Management.

The CVRWQCB is responsible for issuing permits for a number of varying activities. Activities subject to the CVRWQCB permitting requirements include stormwater, wastewater, and industrial water discharge, disturbance of wetlands, and dewatering. Permits issued and/or enforced by the CVRWQCB include, but are not limited to, the NPDES Construction General Permit, NPDES Municipal Stormwater Permits, Industrial Stormwater General Permits, Clean Water Act Section 401 and 404 Permits, and Dewatering Permits.

Basin Plans and Water Quality Objectives

The Porter-Cologne Water Quality Control Act provides for the development and periodic review of water quality control plans (basin plans) that are prepared by the regional water quality control boards. Basin plans designate beneficial uses of California's major rivers and groundwater basins, and establish narrative and numerical water quality objectives for those waters. Beneficial uses represent the services and qualities of a water body (i.e., the reasons why the water body is considered valuable), while water quality objectives represent the standards necessary to protect and support those beneficial uses. Basin plans are primarily implemented through the NPDES permitting system and by issuing waste discharge regulations to ensure that water quality objectives are met.

Basin plans provide the technical basis for determining waste discharge requirements and taking regulatory enforcement actions if deemed necessary. The project site is located within the jurisdiction of the CVRWQCB. A basin plan has been adopted for the Sacramento and San Joaquin River Basin (Basin Plan), which covers all of the project area.

The Basin Plan sets water quality objectives for the surface waters in its region for the following substances and parameters: ammonia, bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, radioactivity, salinity, sediment, settleable material, suspended material, taste and odor, temperature, toxicity, turbidity, and pesticides. For groundwater, water quality objectives applicable to all groundwater have been set for bacteria, chemical constituents, radioactivity, taste, odors, and toxicity.

Senate Bill 5

In 2007, the State of California set the 200-year event as the Urban Level of Flood Protection (ULOP) for the State through a series of laws included in Senate Bill (SB) 5. Along with other related legislation, SB 5 established a mandate for local governments to amend their general plans and zoning codes to be consistent with State law on floodplain management. Specifically, SB 5 requires all cities and counties within the Sacramento-San Joaquin Valley, as defined in California Government Code Sections 65007(h) and (j), to make findings related to an ULOP or the national FEMA standard of flood protection before: (1) entering into a development agreement for any property that is located within a flood hazard zone; (2) approving a discretionary permit or other discretionary entitlement, or a ministerial permit that would result in the construction of a new residence, for a project that is located within a flood hazard zone; or (3) approving a tentative map, or a parcel map for which a tentative map was not required, for any subdivision that is located within a flood hazard zone. The primary purpose of the law is to ensure that appropriate flood protection is provided in urban and urbanizing areas.

A project would be subject to the requirements of SB 5 if the project would meet all of the following five criteria:

1. Located within an urban area that is a developed area, as defined by CFR Title 44, Section 59.1, with 10,000 residents or more, or an urbanizing area that is a developed area or an area outside a developed area that is planned or anticipated to have 10,000 residents or more within the next 10 years.
2. Located within a flood hazard zone that is mapped as either a special hazard area or an area of moderate hazard on FEMA's official (i.e., effective) FIRM for the NFIP.
3. Located within the Sacramento-San Joaquin Valley.
4. Located within an area with a potential flood depth above 3.0 feet, from sources of flooding other than localized conditions that may occur anywhere in a community, such as localized rainfall, water from stormwater and drainage problems, and water from temporary water and wastewater distribution system failure.
5. Located within a watershed with a contributing area of more than 10 square miles.

The proposed project would meet criteria 1, 3, and 5 above. However, per the FEMA FIRM for the project area, the entirety of the project site is located within Zone X, defined as an area of minimal flood hazard that is located outside of the designated 100-year floodplain. The proposed development footprint would not be located within an area with a potential flood depth above three feet. Thus, the project would not meet criteria 2 or 4. Thus, the proposed project would not be subject to the requirements of SB 5.

Local Regulations

Relevant goals and policies from the City of Rancho Cordova General Plan as well as various other local guidelines and regulations related to hydrology and water quality, are discussed below.

City of Rancho Cordova General Plan

The following goals and policies from the City of Rancho Cordova General Plan related to hydrology and water quality are applicable to the proposed project:

Goal NR.5: Protect the quantity and quality of the City's water resources.

Policy NR.5.3 Protect surface and ground water from major sources of pollution, including hazardous materials contamination and urban runoff.

Policy NR.5.4 Prevent contamination of the groundwater table and surface water, and remedy existing contamination to the extent practicable.

Policy NR.5.5 Minimize erosion to stream channels resulting from new development in urban areas consistent with State law.

Policy NR.5.6 Incorporate Storm Water, Urban Runoff, and Wetland Mosquito Management Guidelines and Best Management Practices into the design of water retention structures, drainage ditches, swales, and the construction of mitigated wetlands in order to reduce the potential for mosquito-borne disease transmission.

Policy NR.5.7 Continue to cooperate and participate with the County, other cities, and the Regional Water Quality Control Board regarding compliance with the joint National Pollutant Discharge Elimination System Permit (NPDES No. CAS082597) or any subsequent permit and support water quality improvement projects in order to maintain compliance with regional, state and federal water quality requirements.

Policy NR.5.8 The City shall require groundwater impact evaluations be conducted for the Grant Line West, Westborough, Aerojet, Glenborough, Mather and Jackson Planning Areas to determine whether urbanization of these areas would adversely impact groundwater remediation activities associated with Mather and Aerojet prior to the approval of large-scale development. Should an adverse impact be determined, a mitigation program shall be developed in consultation with applicable local, state, and federal agencies to ensure remediation activities are not impacted. This may include the provision of land areas for groundwater remediation facilities, installation/extension of necessary infrastructure, or other appropriate measures.

Goal S.2: Reduce the possibility of a flooding or drainage issue causing loss of life or damage to property.

Policy S.2.2 Manage the risk of flooding by discouraging new development located in an area that is likely to flood.

Policy S.2.4 Ensure that adequate drainage exists for both existing and new development.

City of Rancho Cordova NPDES Small Municipal Separate Storm Sewer System (MS4) General Permit

The NPDES Municipal Stormwater Permitting Program regulates stormwater discharges from separate storm sewer systems. NPDES Municipal Stormwater Permits are issued in two phases. Phase I regulates stormwater discharges from large- and medium-sized municipal separate storm sewer systems (those serving more than 100,000 persons). Most Phase I permits are issued to a group of co-permittees encompassing an entire metropolitan area. Phase II provides coverage for smaller municipalities, including nontraditional small storm sewer systems, which include governmental facilities such as military bases, public campuses, and prison and hospital complexes. The NPDES Municipal Stormwater Permits require the discharger to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable.

The CVRWQCB issued the NPDES General Permit No. CAS0085324, Order R5-2016-0040 Waste Discharge Requirements for Stormwater Discharges from Municipal Separate Storm Sewer Systems, which became effective in October 2016. An “MS4” is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) designed or used for collecting or conveying stormwater; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW). The City of Rancho Cordova is a Phase I MS4 permittee. Projects subject to the requirements of the Phase I MS4 NPDES permit must submit the appropriate Post-Construction Stormwater Plan based on the project type/development category. Regulated Projects include residential projects that create or replace one acre or more of impervious surface. Regulated Projects that create and/or replace one or more acres of impervious surface are subject to hydromodification management, treatment, low impact development, and trash capture requirements. The proposed project would create more than one acre of impervious area, and, thus, is considered a Regulated Project subject to the Phase I MS4 NPDES permit post-construction stormwater requirements.

Regulated Projects are required to divide the project area into Drainage Management Areas (DMAs) and implement and direct water to appropriately-sized Site Design Measures (SDMs) and applicable Post Construction Measures to each DMA to the Maximum Extent Practicable (MEP). Regulated Projects must additionally include Source Control BMPs where possible. SDMs and post construction measures include, but are not limited to:

- Rooftop and impervious area disconnection;
- Porous pavement;
- Rain barrels and cisterns;
- Vegetated swales;
- Bio-retention facilities;

- Green roofs; or
- Other equivalent measures.

A detailed description of the requirements for Regulated Projects, such as the proposed project, is included in the 2018 *Stormwater Quality Design Manual* for the Sacramento region.[6] Per Figure 5-2 of the *Stormwater Quality Design Manual*, the project site is located within an area that is subject to hydromodification management.

Rancho Cordova Municipal Code

The City's Municipal Code includes ordinances associated with hydrology and water quality. The applicable ordinances are discussed in further detail below.

Chapter 15.12: Storm Water Management and Discharge Control

The purpose of Chapter 15.12, Storm Water Management and Discharge Control, of the City's Municipal Code, is to protect and enhance the water quality of watercourses, water bodies, and wetlands within the City area in a manner consistent with the Federal Clean Water Act, the Porter-Cologne Water Quality Control Act, and Municipal Discharge Permit No. CA0085324 by controlling the contribution of urban pollutants to storm water runoff which enters the City's stormwater conveyance system. Per Section 15.12.040 of the Municipal Code, the provisions of Chapter 15.12 are applicable to all users and potential users located within the incorporated area of the City and all users that discharge either directly or indirectly into the County storm water conveyance system.

Land Grading and Erosion Control

The intent of Chapter 16.44, Land Grading and Erosion Control, is to minimize damage to surrounding properties and public rights-of-way, the degradation of the water quality of watercourses, and the disruption of natural or city-authorized drainage flows caused by the activities of clearing and grubbing, grading, filling and excavating of land, and sediment and pollutant runoff from other construction-related activities, and to comply with the provisions of the City's NPDES permit No. CA0085324, issued by the CVRWQCB. Except as provided by Sections 16.44.060, 16.44.065, or 16.44.070 of the Municipal Code, a grading and erosion control permit is required to (A) grade, fill, excavate, store or dispose of 350 cubic yards or more of soil or earthly material or (B) clear and grub one acre or greater of land within the City of Rancho Cordova.

4.6.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to hydrology and water quality. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the proposed project would result in any of the following:

- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality;

[6] City of Citrus Heights, City of Elk Grove, City of Folsom, City of Galt, City of Rancho Cordova, City of Sacramento, County of Sacramento. *Sacramento Region Stormwater Quality Design Manual.* July 2018.

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or;
    - Impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The proposed project's impacts associated with erosion or siltation on- or off-site are discussed in Chapter 4.4, Geology and Soils/Mineral Resources, of this EIR.

Issues Not Discussed Further

The Initial Study prepared for the proposed project (see Appendix A) determined that development of the proposed project would result in no impact related to the following:

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

For the reasons cited in the Initial Study, the potential impacts associated with the above are not analyzed further in this EIR.

Method of Analysis

The impacts analysis for this chapter is based primarily on the Drainage Study prepared for the proposed project by Ruggeri-Jensen-Azar.[7] The Drainage Study included hydrologic modeling for the proposed project (both pre-project and post-project conditions) using the HEC computer program. In particular, Ruggeri-Jensen-Azar used a combination of the HEC Hydrologic Modeling System (HEC-HMS) and HEC River Analysis System (HEC-RAS) software.

Hydrographs for the HEC-HMS program were developed using the Sacramento Method, which includes calculation of peak flows from the hydrographs produced. The hydrographs are developed based on a design storm, initial losses, constant losses, lag time, and land use. The major contributor in loss coefficients is soil type. Table 4.6-1 below, adopted from the Drainage Study, summarizes the hydrology coefficients applied to the SacCalc program, which was used to calculate the Sacramento Method.

[7] Ruggeri-Jensen-Azar. *Drainage Study for the Preserve.* Updated January 2020.

Table 4.6-1
Hydrology Coefficients

Land Use	Initial Loss (inches)	Constant Loss (inches/hour)	Percent Impervious	Precipitation Zone
Open Space (Grassland)	0.10	0.10	2	2
Recreation (Park)	0.10	0.10	5	2
Low Density Residential (6-8 units/acre)	0.10	0.10	50	2

Note: Constant losses are based on a combination of Type C and D soils.

Source: Ruggeri-Jensen-Azar, 2020.

The design storm selected for proposed project is the 100-year, 24-hour storm, which, according to the Drainage Study, is appropriate for an analysis of a hydromodification basin designed to reduce the peak flow from a developed condition to the existing condition peak flow and is consistent with County analysis standards. The 10-year, 24-hour storm was also evaluated for the developed condition for informational purposes. As part of the Drainage Study, the hydrograph created for the project using the Sacramento Method was applied to the HEC-HMS program to evaluate stormwater flows through the proposed LID drainage features. The modeling results are included in the appendices to the Drainage Study.

Furthermore, Ruggeri-Jensen-Azar performed a floodplain analysis of Morrison Creek under both existing and post-development conditions using the HEC-RAS program. The existing condition cross sections for the HEC-RAS model were developed from the existing topography for the project site and supplemental field survey points. The developed condition cross sections used the existing topography, survey points, and the preliminary grading plan for the proposed project. The developed condition 100-year water surface elevations from the HEC-RAS model were plotted on the proposed Tentative Subdivision Map.

The cross sections begin at the downstream end of the project site (western boundary) and continue upstream until the final cross section located east of Grant Line Road. The beginning water surface elevation at the downstream cross section is calculated based on a normal depth condition with a slope along the creek flowline at S=0.004. Along the way are two man-made ponds and an existing driveway. The two ponds are assumed full for the HEC-RAS analysis. The water surface for each pond is the lowest overflow elevation. The overflow elevation for the downstream pond is elevation 210.5 and the upper pond overflow elevation is 215.2. The existing driveway crosses the creek upstream of the upper pond. The typical Manning's 'n' Value used for the creek is 0.035. This value is appropriate for the grasses that grow along the creek. The 'n' values were increased to 0.04 at the overflows from the two ponds. The existing overflows from the two ponds show erosion and the output from the HEC-RAS model show higher velocities in both areas.

The City has reviewed the technical analysis prepared for the proposed project and preliminarily concurs with the methodology applied by Ruggeri-Jensen-Azar, as well as the conclusions provided therein.

Project Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance identified above.

4.6-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction of the proposed project would include grading, excavation, trenching for utilities, and other construction-related activities that could cause soil at an accelerated rate during storm events. All such activities have the potential to affect water quality and contribute to localized violations of water quality standards if impacted stormwater runoff from construction activities enters Morrison Creek.

Soils exposed by the aforementioned types of construction activities have the potential to affect water quality in two ways: 1) suspended soil particles and sediments transported through runoff; or 2) sediments transported as dust that eventually reach local water bodies. Spills or leaks from heavy equipment and machinery, staging areas, or building sites also have the potential to enter runoff. Typical pollutants include, but are not limited to, petroleum and heavy metals from equipment and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products could result in water quality degradation if runoff containing the sediment or contaminants should enter receiving waters in sufficient quantities. Discharge of polluted stormwater or non-stormwater runoff could violate waste discharge requirements. However, in general, impacts from construction-related activities would generally be short-term and of limited duration.

Because the proposed project would require construction activities that would result in a land disturbance of over an acre, the project applicant would be required by the State to comply with the most current Construction General Permit requirements. Per the requirements, a SWPPP would be prepared for the overall project, which would include the site map, drainage patterns and stormwater collection and discharge points, BMPs, and a monitoring and reporting framework for implementation of BMPs, as necessary. In addition, a Notice of Intent (NOI) would be filed with CVRWQCB.

As discussed in further depth in Chapter 4.4, Geology and Soils/Mineral Resources, of this EIR, development of the SWPPP would include plans to treat stormwater runoff in accordance with the standards of the California Stormwater Management Practice New Development and Redevelopment Handbook and the MS4 Permit standards. The plan would include drainage design from all paved surfaces, including streets, parking lots, driveways, and roofs, as well as landscaping. In addition, the project would be subject to Chapter 16.44 of the City's Municipal Code and Section 11 of the City's Improvement Standards. Implementation of BMPs to control erosion, and, thus, sediment related pollution, is further mandated by Mitigation Measure 4.4-2 within Chapter 4.4 of this EIR.

Non-stormwater management and material management controls reduce non-sediment-related pollutants from potentially leaving the construction site to the extent practicable. The Construction General Permit prohibits the discharge of materials

other than stormwater and authorized non-stormwater discharges (such as irrigation and pipe flushing and testing). Non-stormwater BMPs tend to be management practices with the purpose of preventing stormwater from coming into contact with potential pollutants. Examples of non-stormwater BMPs include preventing illicit discharges, and implementing good practices for vehicle and equipment maintenance, cleaning, and fueling operations, such as using drip pans under vehicles. Waste and materials management BMPs include implementing practices and procedures to prevent pollution from materials used on construction sites. Examples of materials management BMPs include the following:

- Good housekeeping activities such as storing of materials covered and elevated off the ground, in a central location;
- Securely locating portable toilets away from the storm drainage system and performing routine maintenance;
- Providing a central location for concrete washout and performing routine maintenance;
- Providing several dumpsters and trash cans throughout the construction site for litter/floatable management; and
- Covering and/or containing stockpiled materials and overall good housekeeping on the site.

While the final materials management BMPs to be used during construction of the proposed project are currently unknown, the project would likely include a combination of the BMP examples listed above. Final BMPs for the proposed project construction would be chosen in consultation with the applicable California Stormwater Quality Association Stormwater BMP Handbooks and Section 11 of the City's Improvement Standards, and implemented by the project contractor.

In accordance with the Construction General Permit, the project site would also be inspected during construction before and after storm events and every 24 hours during extended storm events in order to identify maintenance requirements for the implemented BMPs and to determine the effectiveness of the implemented BMPs. As a "living document", the site-specific SWPPP that would be prepared for the proposed project would be modified as construction activities progress. A Qualified SWPPP Practitioner (QSP) would ensure compliance with the SWPPP through regular monitoring and visual inspections during construction activities. The QSP for the project would amend the SWPPP and revise project BMPs, as determined necessary through field inspections, to protect against substantial erosion or siltation on- or off-site.

Compliance with the State's Construction General Permit, Chapter 11 of the Improvement Standards, and Chapter 16.44 of the Rancho Cordova Municipal Code, as described above and required by Mitigation Measure 4.4-2 within this EIR, would minimize the potential degradation of stormwater quality and downstream surface water associated with construction of the proposed project. In addition, BMPs would be required to be designed in accordance with the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction and for New Development/Redevelopment and Chapter 11 of the Improvement Standards (or other similar source as approved by the City). In order to further minimize the

potential for, and effects from, accidental spills of hazardous, toxic, or petroleum substances during construction activities, Mitigation Measure 4.6-1(b) below requires the project to prepare and implement a Spill Prevention Countermeasure and Control Plan (SPCC). Without implementation of the aforementioned measures, the proposed project could result in a ***significant*** impact related to short-term construction-related water quality.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

4.6-1(a) *Implement Mitigation Measure 4.4-2.*

4.6-1(b) *Prior to the commencement of ground-disturbing activities, the project applicant shall submit, and obtain approval of, a Spill Prevention Countermeasure and Control Plan (SPCC) to the Sacramento County Environmental Management Department. The SPCC shall specify measures and procedures to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during all construction activities, and shall meet the requirements specified in the Code of Federal Regulations, Title 40, Part 112.*

4.6-2 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Development of the proposed project would result in the conversion of a rural area to single-family residential uses and associated amenities, such as parks and landscaping. Such new land uses could result in new stormwater pollutants being introduced to the project area. Pollutants associated with the operational phase of the proposed project could include nutrients, oil and grease, metals, organics, pesticides, bacteria, sediment, trash, and other debris. Nutrients that could be present in post-construction stormwater include nitrogen and phosphorous resulting from fertilizers applied to landscaping. Excess nutrients could affect water quality by promoting excessive and/or a rapid growth of aquatic vegetation, which reduces water clarity and results in oxygen depletion. Pesticides, which are toxic to aquatic organisms and can bioaccumulate in larger species, such as birds and fish, can potentially enter stormwater after application to landscaped areas within the project site. Oil and grease could enter stormwater from vehicle leaks, traffic, and maintenance activities. Metals could enter stormwater as surfaces corrode, decay, or leach. Clippings associated with landscape maintenance and street litter could be carried into storm drainage systems. Pathogens (from pets, wildlife, and human activities) have the potential to affect downstream water quality.

Development of the proposed project could also increase polluted non-stormwater runoff (e.g., car wash water, other wash water, and landscape irrigation runoff). Such non-stormwater runoff could flow down sidewalks, parking areas, and streets, and pick

up additional pollutants deposited on impervious surfaces prior to discharge into the storm drain system and surface waters. Discharge of polluted stormwater or non-stormwater runoff could violate waste discharge requirements.

Phase I MS4 Permit Requirements

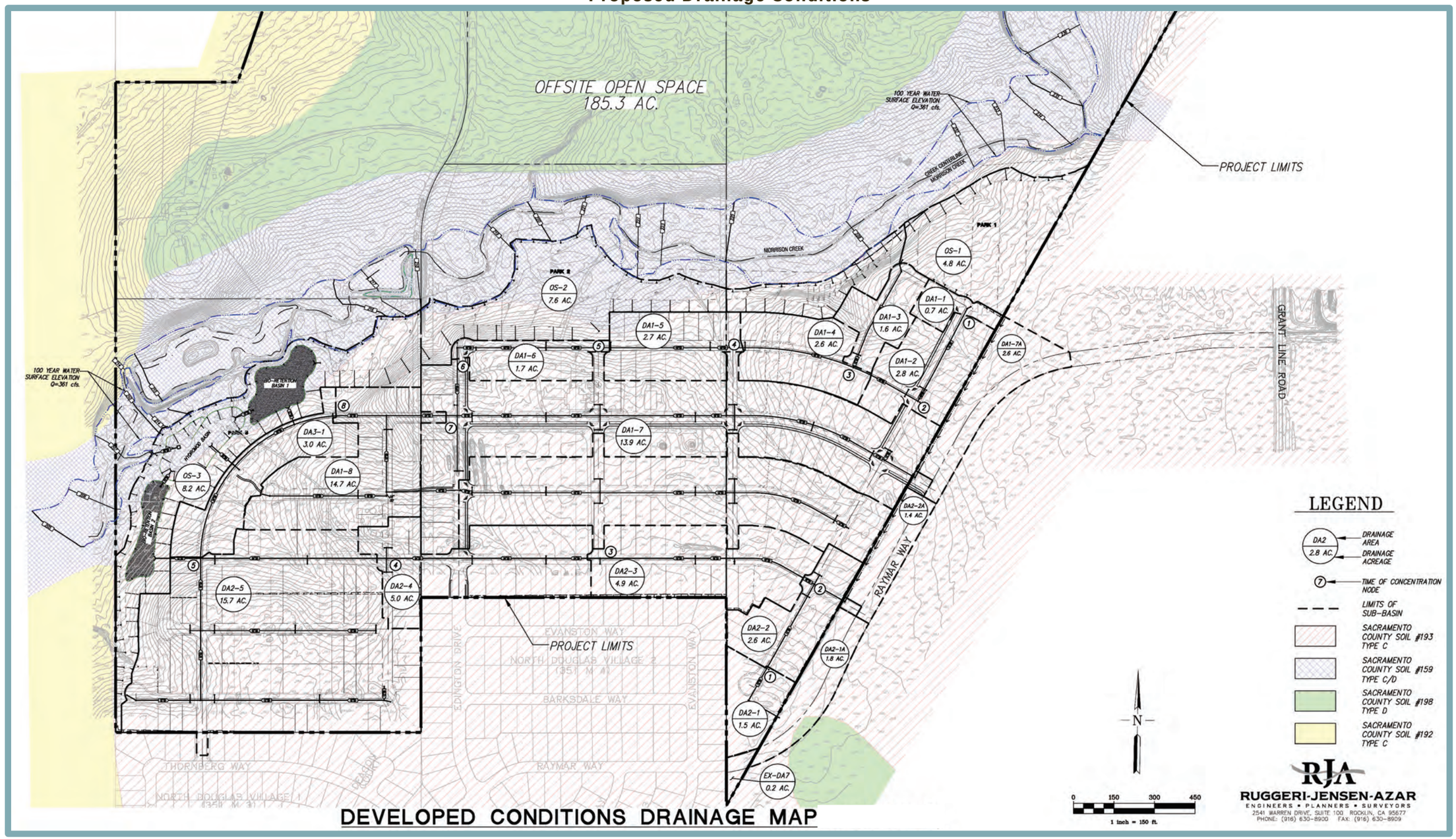
As discussed previously, the proposed project is located within the permit area covered by City's MS4 Permit (NPDES General Permit No. CAS0085324, Order R5-2016-0040 Waste Discharge Requirements for Stormwater Discharges from Municipal Separate Storm Sewer Systems), pursuant to the NPDES Phase I program. Project-related stormwater discharges are subject to all applicable requirements of said permit. Specifically, as noted above, regulated projects are required to divide the project area into DMAs and implement and direct water to appropriately-sized post construction stormwater quality measures to each DMA. Source control measures must be designed for pollutant-generating activities or sources consistent with recommendations from the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment, the Sacramento region *Stormwater Quality Design Manual*, or equivalent manual, and must be shown on the Improvement Plans. Additional details related to post construction stormwater quality requirements associated with the Phase I MS4 permit are discussed under Impact 4.6-4 below.

Proposed Storm Drain System

Per the Drainage Study prepared for the proposed project, the proposed project would include an on-site storm drain system composed of the following post construction stormwater quality measures: Low Impact Development (LID) components-dedication of open space, disconnected pavement, disconnected roof drains, interceptor trees, a hydromodification basin, and two bio-retention basins. Consistent with MS4 permit requirements and the Sacramento region *Stormwater Quality Design Manual*, the proposed development area and the Raymer Way off-site improvement area would be divided into DMAs. The portion of the project site located to the north of Morrison Creek, which would not be developed as part of the project, would not be included in the proposed stormwater management system.

Impervious surfaces proposed as part of the project include building roofs, driveways, and roadways. Runoff from such surfaces would be captured by a series of drain inlets located within the internal roadways and routed, through new underground 12- to 24-inch storm drains, to two bio-retention basins located within the northwest portion of the development area, as shown in Figure 4.6-3. Consistent with the *Stormwater Quality Design Manual*, the bio-retention basins would include a six-inch deep topsoil layer underlain by at least 18 inches of bio-retention soil media. A nine-inch gravel layer with a perforated underdrain would be located underneath the bio-retention soil media. In addition, each basin would include an overflow structure connected to the underdrain. Treated stormwater would be captured by the perforated underdrain and flow, through new 15-inch storm drains, to a hydromodification basin located in between the two bio-retention basins. During large storm events, excess stormwater in the bio-retention basins would flow directly through to the hydromodification basin. The hydromodification basin would allow for detention of captured runoff prior to discharging through a new 36-inch storm drain and outlet structure to Morrison Creek.

Figure 4.6-3
Proposed Drainage Conditions



The proposed bio-retention basins would be sized to treat the first flush, which includes a majority of the larger pollutants (sand, soil, silt, grease and trash), as well as smaller pollutants (sediment, nutrient, metals, pesticides and organics).

As demonstrated in Table 4.6-2 below, the proposed LID features would be sufficiently sized to meet the required storage volumes. Thus, project runoff entering Morrison Creek would be properly treated, and would not pollute downstream waterways.

Table 4.6-2
Proposed LID Control Sizing

Basin	Required Water Quality Volume (acre-feet)	Storage Volume Proposed (acre-feet)	Flow from Hydromodification Basin at Storage Volume (cfs)	Bio-Retention Area (sf)
Hydromodification Basin	1.73	1.73	1.6	-
Bio-Retention Basin 1	-	-	-	39,000
Bio-Retention Basin 2	-	-	-	26,700

Source: Ruggeri-Jensen-Azar, 2019.

Maintenance and Inspection

In order to ensure continued operation of the proposed LID control features, a detailed site-specific inspection and maintenance procedures plan should be implemented by the project applicant. For example, plants and vegetation within the bio-retention basins and hydromodification basin should be inspected monthly, and the basins should be inspected for the presence of standing water 72 hours after rain events. Required maintenance activity should include, but not necessarily be limited to, removal of debris from basins and removal of debris from outlets of basins. Without implementation of such measures, the basins could fail to ensure that polluted runoff would not enter downstream water bodies during the continued operation of the project.

Conclusion

Based on the above, the proposed project includes site design measures to ensure that stormwater runoff is properly treated prior to discharge to Morrison Creek. Thus, urban pollutants entering and potentially degrading local water quality would not be expected to occur as a result of the project. However, because a final BMP and water quality maintenance plan has not been prepared, ongoing maintenance of the proposed bio-retention basins and the incorporation of proper source control measures cannot be ensured. Should the project applicant fail to prepare and implement such documentation, the proposed project could result in a ***significant*** impact related to a violation of water quality standards or waste discharge requirements or otherwise substantial degradation of surface or ground water quality during operations.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.6-2 *Prior to approval of final project improvement plans, the project applicant shall submit a detailed Best Management Practice (BMP) and water quality maintenance plan to the City for review and approval. The BMP and water quality maintenance plan shall meet the standards of the City's NPDES Permit (No. CAS0085324), the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment, and the Stormwater Quality Design Manual for the Sacramento region. Site design measures, source control measures, hydromodification management, and Low Impact Development (LID) standards, as necessary, shall be incorporated into the design and shown on the improvement plans.*

4.6-3 *Prior to approval of final project improvement plans, the project applicant shall submit a maintenance covenant to the City for review and approval. The maintenance covenant shall be recorded with the property deed and executed following property ownership to ensure the long-term maintenance of stormwater quality measures.*

4.6-3 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Based on the analysis below, the impact is *less than significant*.

The proposed project would result in an increase in on-site impervious surfaces, which would reduce the infiltration of groundwater as compared to existing conditions. Groundwater relies on annual rainfall and percolation through pervious soils to recharge the system. The U.S. Soil Conservation Service (SCS) has classified soils into four hydrologic categories (A, B, C, and D) based on infiltration rates from prolonged wetting. Soil Type A has the highest infiltration rate and Type D has the lowest infiltration rate. According to the Drainage Study, the majority of the project site consists of Type C soils, while a small portion of the site along Morrison Creek consists of Type C/D soils. Because the majority of the site is characterized by Type C or D soils, the project site would not be considered an important groundwater recharge area. Furthermore, the proposed project would not include any development within the channel of Morrison Creek; thus, infiltration of water moving through the creek would continue to occur and contribute to groundwater recharge.

Given the limited recharge potential of the portion of the project site that would be developed with impervious surfaces, the proposed project would not interfere substantially with groundwater recharge. Furthermore, the groundwater subbasin within which the project site is located is not currently in a state of overdraft. As further discussed in Chapter 4.9, Public Services and Utilities, of this EIR, the water supply for the proposed project would only include groundwater sources during dry and critically dry years.

Considering that the project site is not considered an important groundwater recharge area, stormwater from the project site would continue to replenish groundwater through percolation into soils within Morrison Creek, and that the project would not involve substantially increased demand on groundwater supplies within an area in a state of overdraft, the proposed project would not create a conflict with, or impede the implementation of, a sustainable groundwater plan. Thus, impacts related to groundwater would be ***less than significant***.

Mitigation Measure(s)
None required.

4.6-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Based on the analysis below, the impact is *less than significant*.

It should be noted that the potential for the proposed project to result in substantial additional sources of polluted runoff, including erosion, is addressed under Impacts 4.6-1 and 4.6-2 above. Further discussion regarding erosion is provided in Chapter 4.4, Geology and Soils/Mineral Resources, of this EIR.

Increases to peak runoff flows or volumes resulting from alterations to the existing drainage pattern of the site have the potential to result in exceedance of existing or planned stormwater drainage systems or flooding on- or off-site.

As discussed previously, runoff from impervious surfaces created as part of the proposed project would be routed to two new bio-retention basins in the northwest portion of the development area. The bio-retention basins would detain and treat runoff prior to discharging treated runoff to a hydromodification basin located in between the two bio-retention basins. The hydromodification basin would allow for metering of flows discharged to Morrison Creek. In addition to the bio-retention basins and hydromodification basin, the project would incorporate LID controls such as disconnected pavement, disconnected roof drains, and interceptor trees to help reduce stormwater runoff. Such strategies are consistent with the *Stormwater Quality Design Manual* for the Sacramento region.

To assess the changes in runoff volumes from the project site that could occur due to the proposed project, Ruggeri-Jensen-Azar calculated the pre- and post-construction peak flow runoff volumes at the location of the proposed stormwater outlet at Morrison Creek. Pre- and post-construction peak flows are presented in Table 4.6-3 below for the 10-year, 24-hour and 100-year, 24-hour storm events.

Table 4.6-3
Pre- and Post-Project Peak Flows

Project Condition	Combined Peak Flow at Outlet Location (cfs)	
	10-year, 24-hour	100-year, 24-hour
Pre-Project	79	134
Post-Project (without LID)	107	171
Post-Project (with LID)	65.9	116.7

Source: Ruggeri-Jensen-Azar, 2020.

As shown in the table, with inclusion of the proposed LID features, the proposed project would result in reduced peak flows relative to existing conditions for the design storm event, as well as during the 10-year, 24-hour storm event. Therefore, the proposed project would be consistent with applicable hydromodification requirements, and would not increase the rate or amount of runoff leaving the project site during the design storm event. In addition, the outlet invert elevation from the hydromodification basin would be above the 100-year water surface elevation calculated from the HEC-RAS model of Morrison Creek.

Therefore, the proposed project would result in a ***less-than-significant*** impact related to substantially altering the drainage pattern of the site or area, or increasing the rate or amount of surface runoff.

Mitigation Measure(s)
None required.

4.6-5 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows. Based on the analysis below, the impact is *less than significant*.

As discussed previously, per the FEMA FIRM for the project area, the entirety of the project site is located within Zone X, defined as an area of minimal flood hazard that is located outside of the FEMA-designated 100-year floodplain. In addition, per the Drainage Study prepared for the proposed project, under post-development conditions, the proposed residences would be located outside of the modeled 100-year floodplain associated with Morrison Creek. The proposed project would not include any grading activities within the 100-year floodplain. Furthermore, the outlet invert elevation from the hydromodification basin would be above the 100-year water surface elevation calculated from the HEC-RAS model of Morrison Creek.

Based on the above, the proposed project is not anticipated to result in the impediment or redirection of flood flows such that on- or off-site structures would be exposed to flood risk. Thus, a ***less-than-significant*** impact would occur related to alteration of the existing drainage pattern of the site or area, including through alteration of a course

of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections of this EIR. The cumulative setting for impacts related to hydrology and water quality would be the US3 drainage area identified within the MDS.

4.6-6 Cumulative impacts related to the violation of water quality standards or waste discharge requirements, groundwater quality, management, and recharge, and impacts resulting from the alteration of existing drainage patterns. Based on the analysis below, the cumulative impact is *less than significant*.

As noted previously, the proposed project is located within the drainage area identified as US3 in the MDS prepared for the Rio Del Oro Specific Plan. The northwestern portion of the project site, which is located within the drainage area identified in the MDS as US2, would not be developed as part of the project; thus, drainage conditions within US2 are assumed to remain unchanged for the purpose of this analysis.

The US3 drainage shed encompasses a total of 1,003 acres, including the project site. Excluding the project site, the remainder of the US3 drainage shed is located within unincorporated Sacramento County. The portions of the drainage shed within the unincorporated County are primarily undeveloped, with the exception of existing industrial mining operations within the central portion of the drainage shed and limited agricultural operations within the far eastern portion of the drainage shed. According to the Sacramento County General Plan, the existing mining operation area is currently designated Extensive Industrial, while the remainder of US3 is designated General Agriculture. Thus, the County has not anticipated any substantial new development within the US3 drainage shed under buildout of the County's General Plan. As such, drainage conditions within the reach of Morrison Creek located upstream of the project site within US3 are not anticipated to change substantially.

As discussed in Impacts 4.6-1 through 4.6-5 above, all identified project-level impacts would be reduced to less-than-significant levels with implementation of the mitigation measures set forth herein. In the absence of any additional planned or pending future development within the US3 drainage area, significant cumulative impacts related to

hydrology and water quality would not occur. Therefore, the cumulative impact would be considered ***less than significant***.

Mitigation Measure(s)

None required.

4.7 Land Use and Planning/Population and Housing

4.7. LAND USE AND PLANNING/ POPULATION AND HOUSING

4.7.1 INTRODUCTION

The purpose of the Land Use and Planning/Population and Housing chapter of the EIR is to examine the proposed project's compatibility with existing and planned land uses in the area and identify any incompatibilities with applicable land use plans, policies and regulations adopted by the City for the purpose of avoiding environmental effects, including the City of Rancho Cordova General Plan[1] and associated EIR.[2] In addition, the chapter assesses the compatibility of the proposed project with the surrounding land uses, both existing and proposed. Furthermore, the chapter includes discussion of the potential for the project to induce substantial population growth in the project area, either directly or indirectly. The reader is referred to the various environmental resource evaluations presented in the other technical chapters of this EIR for a discussion of potential physical/environmental effects that may result from the proposed land use changes.

4.7.2 EXISTING ENVIRONMENTAL SETTING

This section describes the existing land uses on the project site and within the surrounding area at the time the NOP was published, as well as the existing plans and policies that guide the development of the project site. In addition, the Existing Environmental Setting section describes current population and housing trends in the project region.

Project Site Characteristics and Surrounding Land Uses

The project site is located in the City of Rancho Cordova, northwest of Raymer Way and Grant Line Road. The site is located within the Grant Line West Planning Area of the City.

Currently, the 279.3-acre project site consists primarily of ruderal grasses, with two single-family residences and associated outbuildings located within the southern portion of the site, and a third single-family residence and associated outbuildings located in the northwestern portion of the site. A private road, identified as Douglas Road, leads from south of the project site to the two residences. Currently, the undeveloped portions of the site are used for livestock grazing.

Surrounding land uses include the Camden at Somerset Ranch residential subdivision directly to the south, vacant agricultural lands and a Teichert Aggregates Aggregate/Asphaltic Concrete site across Grant Line Road to the east, two single-family residences and industrial/open space to the north, and vacant land approved for the development of the Rio Del Oro residential community immediately adjacent to the west. The area further to the north of the site contains known contamination areas associated with the Aerojet General Corporation National Priorities List Superfund Site.

1 City of Rancho Cordova. *General Plan*. Adopted June 26, 2006.
2 City of Rancho Cordova. *General Plan Environmental Impact Report.* 2006.

Land Use and Zoning Designations

Per the City of Rancho Cordova General Plan, the project site is located within the Grant Line West Planning Area and is designated Natural Resources and Residential-Mixed Density. The site is zoned Agricultural (AG-80) and Industrial Reserve (IR).

Table 4.7-1 below provides a summary of the current General Plan land use and zoning designations of the properties adjacent to the project site. The land uses to the north of the site, as well as the areas east of the site beyond Grant Line Road, are located within unincorporated Sacramento County, but are included in the City's planning area and are assigned land uses per the City's General Plan. The adjacent areas to the south and west of the site are located within the City of Rancho Cordova.

Table 4.7-1
Summary of Adjacent Community Plan Land Use and Zoning Designations

Relationship to Project Site	Present Land Use	City General Plan Land Use Designation	Zoning Designation
North	Superfund site	Residential-Mixed Density	Interim-Agricultural Reserve (IR) *(Sacramento County)*
		Natural Resources	
South	Single-family residential	Residential-Mixed Density	Residential 5 (RD 5)
		Low Density Residential	Agricultural 80 (AG-80) *(Sacramento County)*
East	Industrial/vacant	Residential-Mixed Density	Agricultural 80 (AG-80) *(Sacramento County)*
West	Vacant	Residential-Mixed Density	Single Family Residential (SF) *(Rio Del Oro Specific Plan)*
		Natural Resources	Wetland Preserve (WP) *(Rio Del Oro Specific Plan)*

It should be noted that within the Grant Line West Planning Area, as well as other Planning Areas in the project vicinity, the land use designations provided by the City's General Plan are conceptual; detailed planning efforts are required in such areas prior to approval of development. In addition, while the General Plan contains conceptual land uses for each of the Planning Areas within the project vicinity, some of the Planning Areas are located outside the City limits. The land use designations endorsed by the General Plan for the Planning Areas located outside the City limits are merely advisory in nature. The General Plan does not change land use designations for land located outside of the City's jurisdiction.

Land Use Designation Definitions

The following sections provide definitions of the land use designations noted above, as summarized from the City's General Plan.

Residential-Mixed Density

The Residential-Mixed Density conceptual land use designation is intended to represent a mix of residential densities with target average densities in the medium density range.

Natural Resources
Land within the Natural Resources category is set aside as natural habitat and typically does not include any urban development.

Low Density Residential
The Low Density Residential land use category is intended to include traditional single-family neighborhoods with a majority of single-family detached homes. Per the City's General Plan, the Low Density Residential designation is the predominant land use category for the City's neighborhoods.

Zoning Designation Definitions
The following sections provide definitions of the zoning designations noted above, as summarized from the City of Rancho Cordova Zoning Code (Title 23 of the City's Municipal Code) and the Sacramento County Zoning Code.

City of Rancho Cordova Zoning Code
The City defines the IR, AG-80, RD-5, SF, and WP zoning designations as follows:

Industrial Reserve (IR)
Per the City's Zoning Code, properties zoned IR are considered "agricultural land" because general agricultural uses are allowed within the IR zone.

Agricultural 80 (AG-80)
Per the City's Zoning Code, the AG-80 zone district is intended to preserve land for agricultural use and operations and discourage the premature conversion of agricultural land to urban uses. The AG-80 zone is applied to areas of the City to accommodate a wide range of agricultural uses on parcels of land that are 80 acres or larger in size.

Residential 5 (RD-5)
The RD-5 district makes up the vast majority of residential development built within the City prior to incorporation. The zone allows for residential development in the 4.1 to 5.0 dwelling units per acre range, as well as other compatible neighborhood support facilities and public/quasi-public uses, such as parks, religious institutions, and community gathering facilities.

Single Family Residential (SF)
Within the Rio Del Oro Specific Plan area, the SF zoning designation is intended for residential development at densities ranging from 2.1 to 6.0 dwelling units per acre. The size and type of lots anticipated will range from one half-acre executive lots to moderately sized lots. Density ranges, permitted uses and development standards and design guidelines for all residential uses are provided in the Rio Del Oro Specific Plan Development Standards and Design Guidelines.

Wetland Preserve (WP)
The Rio Del Oro Specific Plan area includes a 510-acre WP-zoned area is located in the southern portion of the Specific Plan area, protecting Morrison Creek and approximately 52 percent of the existing vernal pools and associated upland habitat. Vernal pool creation, maintaining approximately 250-foot buffers from existing vernal pool features, will occur within the WP area.

Sacramento County Zoning Code

Sacramento County defines the IR and AG-80 zoning designations as follows:

Interim-Agricultural Reserve (IR)

Per the Sacramento Zoning Code, the IR zone district is an agricultural zoning district with a 20-acre minimum lot size. Single-family residential uses are allowed within the IR zone district. However, the purpose of the IR zone district is to allow for future development with industrial uses.

Agricultural 80 (AG-80)

Within unincorporated Sacramento County, the AG-80 zone district is an agricultural zoning district with an 80-acre minimum lot size. Single-family residential uses are allowed within the AG-80 zone district at a density of one unit per parcel, in addition to accessory dwellings for agricultural employees. The zone district is intended to promote long-term agricultural uses and discourage the premature and unnecessary conversion of agricultural land to urban uses.

Population and Housing

Population growth assumptions, average household sizes, and vacancy rates for the City of Rancho Cordova are discussed below.

Historical and Current Population

Per the City's General Plan, based on the Draft General Plan Land Use Map (see Section 3.0, Project Description) the City of Rancho Cordova Planning Area is anticipated to have a buildout capacity of 126,241 housing units and 310,568 persons. Buildout of the Grant Line West Planning Area, including the project site, has been anticipated to include a total of 3,393 dwelling units, 9,043 residents, 502,893 square feet (sf) of commercial uses, and 143,684 sf of office uses.[3] Maximum buildout is anticipated to occur after year 2030.

The City of Rancho Cordova was incorporated in July 2003. As shown in Table 4.7-2, the population within the city limits has increased steadily, from 53,572 persons in 2010 to 74,566 persons in 2019. As growth has occurred within the City, the average household size has increased, reaching a high of 2.81 in 2019.

Table 4.7-2
City of Rancho Cordova Population and Household Growth

Year	Population	Households	Persons Per Households
2000	53,572	19,909	2.69
2010	64,805	23,468	2.76
2019	74,566	26,559	2.81

Sources:
ESRI Business Analyst, 2010 Census Profile, November 2019.
ESRI Business Analyst, Comparison Report, City of Rancho Cordova, February 2019.

The observed population change within the City, presented in Table 4.7-2, remains well below the buildout estimates presented in the City's General Plan EIR.

[3] City of Rancho Cordova. *General Plan Environmental Impact Report* [Table 3.0-3]. 2006.

Projected Housing Growth

While Table 4.7-2 demonstrates that growth within the City has not reached the maximum growth buildout estimates, development within the City is anticipated to continue to grow as new development occurs within the undeveloped areas within southeastern portion of the City. The Sacramento Area Council of Governments (SACOG) has anticipated growth within the six-county Sacramento region through the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS).[4] Per the 2020 MTP/SCS, the City is anticipated to grow to a total of 39,980 housing units by 2035 and 42,710 housing units by 2040.

Average Household Size

The average size of households is a function of the number of residents living in households within a given area divided by the number of occupied housing units within the given area. As shown in Table 4.7-3, as of 2019, the average household size within the City is approximately 2.81 persons per household, which is similar to average household sizes within Sacramento County but slightly smaller than the statewide average of 2.98 persons/household.

Table 4.7-3
Average Household Size (Persons Per Household)

Area	2019
California	2.98
Sacramento County	2.80
City of Rancho Cordova	2.81

Source: ESRI Business Analyst, Comparison Reports, City of Rancho Cordova, November 2019.

Regional Housing Needs Plan

The Regional Housing Needs Allocation (RHNA) is a minimum projection of additional housing units needed to accommodate projected household growth of all income levels by the end of the housing element's statutory planning period. Based on SACOG's adopted RHNA, each city and county must update the housing element of their General Plan to demonstrate how the jurisdiction will meet the expected growth in housing need over the planning period.

According to the U.S. Department of Housing and Urban Development (HUD), housing is classified as "affordable" if households do not pay more than 30 percent of income for payment of rent (including utilities) or monthly homeownership costs (including mortgage payments, taxes, and insurance). SACOG adopted their Regional Housing Needs Plan (RHNP) on September 20, 2012, which officially assigns the allocations to cities and counties in the six-county Sacramento region. SACOG's RHNP covers the planning period from January 1, 2013 through October 31, 2021, and defines the lower income unit categories as follows:

- Very Low-Income Unit: is one that is affordable to a household whose combined gross household income is at or lower than 50 percent of the Sacramento County median income.
- Low-Income Unit: is one that is affordable to a household whose combined gross household income is at or between 50 and 80 percent of the Sacramento County median income.

[4] Sacramento Area Council of Governments. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. November 18, 2019.

On November 21, 2019, the SACOG Board of Directors approved RHNA Methodology Option C for the RHNA Methodology Cycle 6 (2021 through 2029 planning period).[5] This action provides the number of total housing units that each jurisdiction in the SACOG region must zone for during the eight-year period. Based on the approved RHNA Methodology Option C, the SACOG region requires a minimum of 38,999 new very low-income units and 23,503 new low-income units for the upcoming planning period.[6] The SACOG Board of Directors adopted the 2021-29 RHNP on March 19, 2020.

4.7.3 REGULATORY CONTEXT

Federal laws or regulations pertaining to land use and planning/population and housing are not applicable for this analysis. However, the existing State and local laws and regulations are listed below, as applicable.

State Regulations

The following are applicable State regulations related to land use and planning/population and housing.

Title 14 California Code of Regulations Section 15131

Title 14, California Code of Regulations (CCR) Section 15131 provides that economic or social information may be included in an EIR, but those economic or social effects shall not be considered significant effects on the environment. In an EIR, the lead agency is responsible for researching economic or social changes resulting from a project, which may eventually lead to physical changes in the environment. Such economic or social changes can be used to determine the significance of physical changes on the environment.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as RHNA and is based on a RHNP developed by councils of government. The state-mandated RHNA process (Government Code Sections 65580 et seq.) requires SACOG to develop a methodology that determines how to divide and distribute an overall allocation that the region receives from the State.

SB 330

California Senate Bill (SB) 330, "The Housing Crisis Act of 2019," was signed into law by Governor Newsom on October 9, 2019 and became effective January 1, 2020. The bill establishes a statewide housing emergency to be in effect until January 1, 2025. During the housing emergency period, cities and localities in urban areas, including the City of Rancho Cordova, are generally prohibited from rezoning actions or imposing new development standards that would reduce the zoned capacity for housing, or adopting new design standards that are not objective. In such jurisdictions, the demolition of existing housing units is only permitted if replacement units are provided. The demolition of existing low-income units is only permitted if certain conditions related to affordability and tenant protections are met.

---

5 Sacramento Area Council of Governments. *Regional Housing Needs Allocation (RHNA) and Housing Issues.* Available at: https://www.sacog.org/regional-housing-needs-allocation-rhna. Accessed December 2019.

6 Sacramento Area Council of Governments. *Draft Regional Housing Needs Allocation Methodology Menu.* September 19, 2019.

Local Regulations

The following are the local regulations and standards relevant to the CEQA review process with respect to land use and planning/population and housing. Specific goals and policies from the City's General Plan are listed in Table 4.7-5 at the end of this chapter.

Sacramento Area Council of Governments

SACOG is responsible for the preparation of, and updates to, the MTP/SCS for the region and the corresponding Metropolitan Transportation Improvement Program (MTIP). The MTIP identifies short-term projects (seven-year horizon) in more detail.

Metropolitan Transportation Plan/Sustainable Communities Strategy

The 2020 MTP/SCS was adopted by the SACOG board on November 18, 2019.[7] The MTP/SCS is a long-range plan for transportation improvements in the region and provides a 20-year transportation vision and corresponding list of projects. The plan is based on projections for growth in population, housing, and jobs. SACOG determines the regional growth projections by evaluating baseline data (existing housing units and employees, jobs/housing ratio, and percent of regional growth share for housing units and employees), historic reference data (based upon five- and ten-year residential building permit averages and historic county-level employment statistics), capacity data (General Plan data for each jurisdiction), and current MTIP data about assumptions used in the most recent MTP/SCS. SACOG staff then meets with each jurisdiction to discuss and incorporate more subjective considerations about planned growth for each area. Finally, SACOG makes a regional growth forecast for new homes and new jobs, based upon an economic analysis provided by a recognized expert in order to estimate regional growth potential based on market analysis and related economic data, which is incorporated into the MTP/SCS.

4.7.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to land use and planning/ population and housing. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the proposed project would result in any of the following:

- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect; or
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure).

Issues Not Discussed Further

The Initial Study prepared for the proposed project (see Appendix A) determined that development of the proposed project would result in no impact or a less-than-significant impact related to the following impacts:

[7] Sacramento Area Council of Governments. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. November 18, 2019.

- Physically divide an established community; and
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Method of Analysis

The following section describes the method of analysis used to evaluate potential impacts of the proposed project related to land use and planning/population and housing.

Land Use and Planning

This chapter analyzes the compatibility of the proposed project with surrounding land uses and compliance of the proposed project with adopted plans and policies. Environmental impacts resulting from the proposed project are discussed in the respective environmental categories. This discussion complies with Section 15125(d) of the CEQA Guidelines, which requires that EIRs discuss inconsistencies with adopted local plans as part of the environmental setting. The ultimate determination of consistency rests with the City Council.

Compatibility with Existing Uses

The proposed project is evaluated for compatibility with the existing land uses adjacent to the project site. The evaluation considers the existing and planned type and intensity of uses in the project vicinity and those proposed for the project site. The analysis assumes the construction and implementation of the proposed project within the existing and planned environment to determine if the project is compatible with those existing and planned uses surrounding the project site.

Consistency with the Applicable Land Use Regulations

The proposed project is examined for consistency with the City's General Plan based on the relevant policies contained therein. The project's consistency with the City's Municipal Code is also discussed.

Population and Housing

The level of significance of the impacts related to population and housing is determined by evaluating whether the proposed project, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure), would induce substantial unplanned population growth in the project area.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.7-1 Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Based on the analysis below, the impact is *less than significant*.

The General Plan Guidelines published by the State Office of Planning and Research defines consistency as, "An action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the

general plan and not obstruct their attainment." Therefore, the standard for analysis used in this EIR is based on general agreement with the policy language and furtherance of the policy intent (as determined by a review of the policy context). The determination that the project is consistent or inconsistent with the City of Rancho Cordova General Plan policies or other City plans and policies is ultimately the decision of the City Council. Furthermore, although CEQA analysis may identify some areas of general consistency with City policies, the City has the ability to impose additional requirements or conditions of approval on a project, at the time of its approval, to bring a project into more complete conformance with existing policies. A discussion of the project's general agreement with policy language and furtherance of policy intent is discussed in further detail below.

The General Plan and Zoning Code carry out the policies of the City of Rancho Cordova General Plan by classifying and regulating the uses of land and structures within the City, consistent with the General Plan. As noted previously, the project site is located within the Grant Line West Planning Area and is currently assigned the conceptual land use designations of Natural Resources and Residential-Mixed Density. The site is zoned Agricultural (AG-80) and Industrial Reserve (IR).

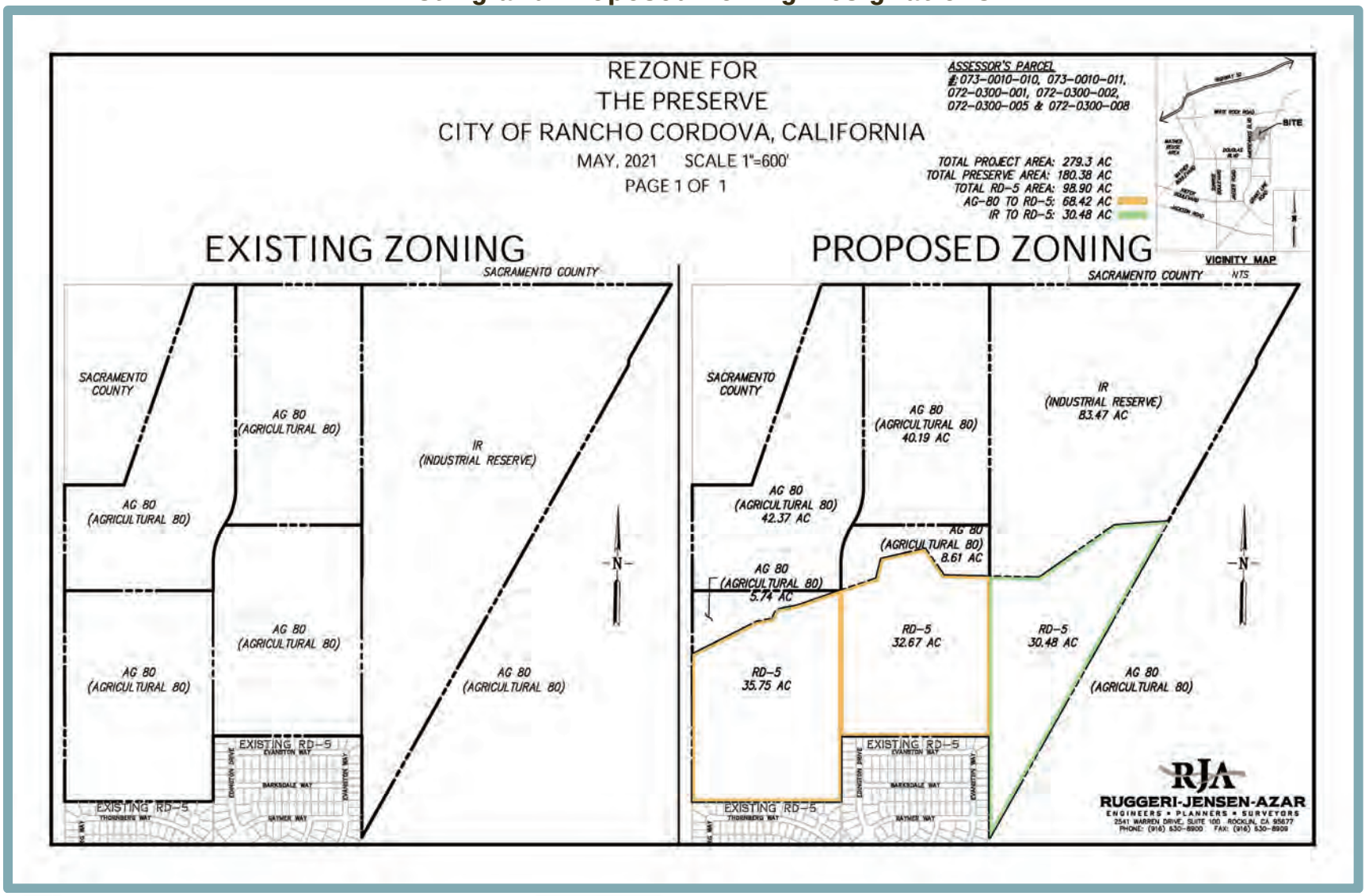
The proposed project would change the land use designation of the entire project site to Low Density Residential. The Low Density Residential designation is intended for single-family detached homes at a density of 2.1 to 6.0 dwelling units/acre. In addition, the project would include an amendment to the Circulation Element of the General Plan to remove the planned alignment of Centennial Drive in the project vicinity. Within the southern portion of the project site, the project would require a rezone to change a total of 68.42 acres of AG-80 zoned land and 30.48 acres of IR zoned land to Residential District (RD-5), which allows for residential development at a density of between 4.1 and 5.0 dwelling units/acre (see Figure 4.7-1). Table 4.7-4 below provides a comparison of the development potential of the project site under the existing and proposed General Plan land use and zoning designations.

Table 4.7-4
Project Site Development Potential

Scenario	Land Use Designation	Zoning	Development Potential
Existing	Natural Resources and Residential-Mixed Density	AG-80, IR	Four units allowable
Proposed	Low Density Residential	RD-5	440 units proposed

As discussed in Table 4.7-5, City of Rancho Cordova General Plan Policy Discussion, the project would be generally consistent with the applicable policies outlined in the General Plan. It should be noted that while potential inconsistencies with specific policies may indicate a significant physical impact, the inconsistency is not itself an impact. The physical impacts of the project are analyzed throughout Chapters 4.1 through 4.10 of this Draft EIR.

Figure 4.7-1
Existing and Proposed Zoning Designations



Approval of the General Plan Amendment and rezone are discretionary actions subject to approval by the City Council. Should the City Council approve the requested entitlements, the project would be rendered consistent with the County's General Plan and Municipal Code.

From a policy perspective, Table 4.7-5 at the end of this chapter demonstrates that the proposed project would be generally consistent with the policies in the General Plan adopted for the purpose of avoiding or mitigating an environmental effect.

Based on the above, the proposed project would not cause a significant environmental impact due to conflicts with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (including the policies discussed in Table 4.7-5), and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.7-2 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure). Based on the analysis below, the impact is *less than significant*.

Growth can be induced in a number of ways, including through the elimination of obstacles to growth or through the stimulation of economic activity within the region. Examples of projects likely to have growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped. The following sections describe potential effects related to direct and indirect population growth associated with implementation of the proposed project.

Direct Population Growth

The proposed 440-unit single-family residential development would increase the available housing within the City of Rancho Cordova, which would be expected to increase population in the area. Using the 2.81 persons/household average household size for the City (see Table 4.7-3), the project would house an estimated 1,237 residents. However, to provide a more conservative assessment consistent with other technical chapters in this EIR, the analysis in this chapter assumes the proposed project would generate 1,333 residents, as estimated by the VMT analysis prepared for the proposed project.

As noted previously, the City has anticipated buildout of the Grant Line West Planning Area with a total of 3,393 dwelling units, 9,043 residents, 502,893 square feet (sf) of commercial uses, and 143,684 sf of office uses. Currently, the Grant Line West Planning Area is primarily vacant and undeveloped. Thus, population growth associated with the proposed 440-unit subdivision would be within the scope of what

has been anticipated for the project area per the General Plan. It should be noted that potential population growth impacts associated with development of the proposed project and other future cumulative development projects in the City, including the Grant Line West Planning Area, are considered in further depth within Impact 4.7-5 below. Furthermore, the SACOG 2020 MTP/SCS has anticipated the addition of 13,421 residential units to the City's housing stock by 2035. Thus, the proposed 440 units would be consistent with the growth projections included in the 2020 MTP/SCS.

Indirect Population Growth

The proposed project would result in an increase of the permanent population on the project site by approximately 1,333 residents. This new residential population would likely patronize local businesses and services in the area, fostering economic growth. While construction of the proposed project would result in increased employment opportunities in the construction field, which could potentially result in increased permanent population and demand for housing in the vicinity of the project site, employment patterns of construction workers is such that construction workers would not likely, to any significant degree, relocate their households as a result of the construction-related employment opportunities associated with the proposed project.

Although the project would provide short-term employment opportunities, which would likely be filled from the local employee base, with the possible exception of a few household and landscape maintenance jobs, no permanent jobs would be created by the proposed project. Therefore, the project would not result in long-term employment growth in the area. The residential population generated by the proposed project would also result in an increased demand for public services. However, as discussed in Chapter 4.9, Public Services and Utilities, the project's demand for public services could be accommodated by existing services and would not create a need for new or altered governmental facilities. The utility improvements included in the proposed project would be designed to serve the proposed residences only, and would not induce additional population growth within the Grant Line West Planning Area beyond what has been previously anticipated by the City.

Conclusion

Considering the above, the proposed project would include development that would result in direct on-site population growth. However, population growth resulting from the proposed project would be within the General Plan and SACOG growth estimates for the project area. Furthermore, the infrastructure included in the proposed project would be sized to accommodate only the development that had been previously planned for the project area. As a result, the proposed project would not be considered to induce substantial unplanned population growth, and a ***less-than-significant*** impact would result. It should be noted that potential impacts related to growth inducement are discussed further within Chapter 5, Statutorily Required Sections, of this EIR, consistent with Section 15126.2(d) of the CEQA Guidelines.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Additional detail regarding the cumulative setting for the proposed project is included in Chapter 5, Statutorily Required Sections, of this EIR.

4.7-4 Cause a significant cumulative environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Based on the analysis below, the cumulative impact is *less than significant*.

A cumulative analysis of land use is not included because land use plans or policies and zoning generally do not combine to result in cumulative impacts. The determination of significance for impacts related to such issues is whether the project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Such a conflict is site-specific, and, thus, is only addressed on a project-by-project basis. As shown in Table 4.7-5 of this chapter, the proposed project would be generally consistent with relevant policies in the City of Rancho Cordova General Plan.

Therefore, the proposed project would not cause a significant cumulative environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and the cumulative impact would be ***less-than-significant***.

Mitigation Measure(s)

None required.

4.7-5 Cumulative unplanned population growth. Based on the analysis below, the cumulative impact is *less than significant*.

Buildout of the City, including the Grant Line West Planning Area, was anticipated to result in population growth through the buildout of urban and rural developments throughout the City. Since approval of the General Plan, the Rio Del Oro Specific Plan and Sun Creek Specific Plans have been approved by the City, which resulted in a slight increase in the amount of residential development anticipated for the specific plan areas. In addition, several residential development projects have been completed, are underway, or approved within the City's planning area. The 2020 MTP/SCS, prepared by the SACOG, provides regional growth projections for the six-county Sacramento region, including the City of Rancho Cordova.

As discussed within Impact 4.7-3 above, the population growth related to implementation of the proposed project has been anticipated for the region by the 2020 MTP/SCS. Concurrently, the 2020 MTP/SCS explicitly anticipates growth within the Developing Communities shown in Figure 3.5 of the MTP/SCS, which include the Rio Del Oro Specific Plan and Sun Creek Specific Plan areas within the southeastern portion of the City of Rancho Cordova. Thus, the General Plan anticipated cumulative growth of the plan area, and increased urbanization within the General Plan area has been anticipated by regional planning such as the 2020 MTP/SCS. Because development of the project site and buildout of the City has been anticipated in regional development forecasts, buildout of the proposed project in combination with other approved developments within the project area would not result in a significant cumulative contribution to unplanned population growth within the project area or region.

It should be noted that population growth itself does not constitute a significant physical environmental effect. Rather, the determination of significance is based on whether population growth associated with a project has been previously planned for, and whether such growth could result in indirect impacts from associated development. As such, the cumulative analysis within each technical chapter of this EIR evaluates the physical environmental impacts of cumulative development.

Considering the above, implementation of the proposed project, in combination with future development occurring under buildout of the City's General Plan, would result in a ***less-than-significant*** cumulative impact related to unplanned population growth.

Mitigation Measure(s)

None required.

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
Policy LU.1.4	Promote high quality, efficient, and cohesive land utilization that minimizes negative impacts (e.g., traffic congestion and visual blight) and environmental hazards (e.g. flood, soil instability) on adjacent neighborhoods and infrastructure and preserve existing and future residential neighborhoods from encroachment of incompatible activities and land uses.	Adverse environmental effects and environmental hazards are evaluated throughout the technical chapters of this EIR. For each issue area, this EIR includes mitigation, as necessary, to reduce any identified impacts to the maximum extent feasible. The 185.3 acres of undeveloped land on the northern parcels within the project site would not be included in development of the proposed project, thereby avoiding potential flooding impacts associated with Morrison Creek. Furthermore, the proposed project would be compatible with the existing single-family residential development to the south of the site, as well as the planned Rio Del Oro residential community to the west of the site. Thus, the proposed project would be consistent with the policy.
Policy LU.2.7	Promote sustainable development that reduces the impact of projects on energy, water, and transportation systems. Encourage sustainable development to occur in ways that complement the built form.	Issues related to energy efficiency are discussed in Chapter 4.1, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR.
Policy C.1.2	Seek to maintain operations on all roadways and intersections at Level of Service D or better at all times, including peak travel times, unless maintaining this Level of Service would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of Level of Service D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote nonvehicular transportation as part of a development project or a City-initiated project. Please see Policy C.1.3 for additional policy guidance related to this issue. Examples of system improvements which may be accepted when Level of Service D cannot be maintained include the following, where the improvement or funding is in excess of standard City requirements: • Development of on- or off-street bicycle or pedestrian circulation (not including sidewalks that are constructed as part of roadway improvements);	As detailed in Chapter 4.10, Transportation, of this EIR, the proposed project would be consistent with the City's acceptable LOS standard for all City roadways and intersections evaluated as part of the Transportation Impact Analysis, with the exception of the following intersections, during Existing Plus Project conditions: • SR 16/Grant Line Road intersection under Existing Plus Project conditions; • Grant Line Road/Raymer Way intersection under Existing Plus Project and Cumulative Plus Project conditions; Although, as a result of SB 743, local jurisdictions may no longer rely on LOS and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA, the City considers LOS as a matter of General Plan policy consistency. The City maintains full discretion to require a project to ensure General Plan consistency through project conditions of approval.

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
	• Providing or funding public transportation facilities or services; Other features as determined appropriate by the City.	Therefore, to address the proposed project's inconsistency with applicable LOS standards for the above intersections, the City will require the project to comply with the following conditions of approval: • The applicant shall pay a fair share of required improvements at the SR 16/Grant Line Road intersection and cumulative improvements through payment of City transportation fees; and • The applicant shall convert the Grant Line Road/Raymer Way intersection from side-street-stop-controlled to signalized along the existing Grant Line Road alignment. Satisfying such conditions of approval would ensure that all intersections identified in the TIA would operate in accordance with General Plan Policy C.1.2 under Existing Plus Project and Cumulative Plus Project conditions.
Policy C.1.7	Require the installation of traffic preemption devices for emergency vehicles (police and fire) at all newly constructed intersections and seek to retrofit all existing intersections to incorporate these features.	Per Sections 22.110.040 and 22.110.045 of the City's Municipal Code, the proposed project would be required to design collector streets and minor residential streets to provide rapid and efficient routes of access for emergency vehicles to residential areas. In addition, to ensure consistency with Policy C.1.7, the City will condition the project, if approved, to require installation of traffic preemption devices for emergency vehicles at all applicable intersections. Satisfying such conditions of approval would ensure preemption devices are installed at all applicable intersections in accordance with General Plan Policy C.1.7.
Policy C.1.8	Ensure that where traffic calming devices or techniques are employed, adequate access is provided for police and fire vehicles.	See response to Policy C.1.7 above.
Policy C.1.9	In an effort to reduce automobile traffic and congestion and increase use of other travel modes, support the use of trip reduction programs.	As discussed in Chapter 4.10, Transportation, of this EIR, the project applicant would construct a portion of the regional trail system in the project vicinity and pay a fair share contribution to provide monetary support for the City's CordoVan regional shuttle service. Such actions would ensure the proposed project is generally consistent with Policy C.1.9, to the maximum extent feasible.
Policy OSPT.1.1	Review all proposals for new residential development to ensure each project complies with the City's minimum	Per section 22.40 of the City's Municipal Code, the project would be required to dedicate at least 6.49 acres of parkland based on the inclusion of 440 units within the proposed project. The proposed project would satisfy

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
	standards for parkland dedication, and is consistent with Cordova Recreation and Park District goals.	the Municipal Code requirement, as the project would include dedication of two park areas totaling 8.65 acres. Thus, the proposed project would be consistent with the policy.
Policy ISF.2.1	Ensure the development of public infrastructure that meets the long-term needs of residents and ensure infrastructure is available at the time such facilities are needed.	As discussed in Chapter 4.9, Public Services and Utilities, of this EIR, the proposed project would connect to the existing 10-inch water main within Edington Drive and the existing eight-inch sewer lines within Edington Drive and Thornberg Way. The Sacramento County Water Agency's water conveyance infrastructure network would provide sufficient water pressure at the proposed residences. Additionally, sewer flows generated by the proposed project would be accommodated by the Sacramento Area Sewer District's (SASD) downstream wastewater conveyance system, and expansion of existing infrastructure would not be required to serve the project. The project site would receive natural gas and electricity service from PG&E and SMUD, respectively. The proposed project would connect to existing electrical, natural gas, and telecommunications infrastructure located to the south of the site within the neighboring subdivision. In addition, as required by the General Plan, the project applicant would be required to pay development impact fees, which would contribute towards the cost of future upgrades to public infrastructure and utilities. Because the proposed project would connect to existing public infrastructure in the project vicinity, and such infrastructure would be sufficient to handle the increase in demand associated with the proposed project, the proposed project would be consistent with Policy ISF.2.1.
Policy ISF.2.7	Minimize visual impacts and physical impediments of utility sites, infrastructure, and equipment.	The utility improvements necessary to serve the proposed project would generally be undergrounded, thereby limiting any potential adverse visual affects associated with such infrastructure. Thus, the proposed project would be consistent with the policy.
Policy NR.1.1	Protect rare, threatened, and endangered species and their habitats in accordance with State and federal law.	As discussed in Chapter 4.2, Biological Resources, of this EIR, implementation of Mitigation Measures 4.2-1, 4.2-2, 4.2-3, 4.2-4, 4.2-5, 4.2-6, 4.2-7, 4.2-8, 4.2-9, 4.2-10, and 4.2-11 would reduce all potential impacts to special-status species to less-than-significant levels. As described in Impact 4.2-13, the proposed project would not conflict with any applicable

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
		provisions of the SSHCP. Thus, the proposed project would be consistent with the policy.
Policy NR.1.7	Prior to project approval, the City shall require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain listed plant and/or wildlife species based upon the City's biological resource mapping provided in the General Plan EIR or other technical materials.	As discussed in Chapter 4.2, Biological Resources, of this EIR, a Biological Resources Assessment has been prepared for the proposed project by ECORP Consulting, Inc. The Biological Resources Assessment evaluated potential impacts to special-status plant and wildlife species, as well as other biological resources. Thus, the proposed project would be consistent with the policy.
Policy NR.1.9	The City shall require that impacts to riparian habitats be mitigated at a no net loss of existing function and value based on field survey and analysis of the riparian habitat to be impacted. No net loss may be accomplished by avoidance of the habitat, restoration of existing habitat, or creation of new habitat, or through some combination of the above.	Implementation of Mitigation Measures 4.2-9(a) through 4.2-9(d) would ensure that potential impacts to wetlands and other riparian habitat would be reduced to a less-than-significant level. For example, Mitigation Measure 4.2-9(a) requires that the proposed project replaces, restores, or enhances on a "no net loss" basis (in accordance with the U.S. Army Corps of Engineers and the Central Valley Regional Water Quality Control Board) the acreage of all wetlands and other waters of the U.S. that would be removed, lost, and/or degraded due to project implementation. Thus, the proposed project would be consistent with the policy.
Policy NR.2.1	Require mitigation that provides for "no net loss" of wetlands consistent with current State and federal policies.	See response to Policy NR.1.9 above.
Policy NR.2.2	Ensure that direct and indirect effects to wetland habitats are minimized by environmentally sensitive project siting and design, to the maximum extent feasible.	The 185.3 acres of undeveloped land on the northern parcels within the project site would not be included in the development of the proposed project the proposed project, thereby avoiding potential impacts to any existing wetlands located on such parcels. Thus, the proposed project would be consistent with the policy.
Policy NR.4.1	Conserve native oak and landmark tree resources for their historic, economic, aesthetic, and environmental value.	Mitigation Measure 4.2-11 would require acquisition of a tree removal permit from the City prior to removal of any protected trees, as defined by Chapter 19.12 of the City's Municipal Code. In addition, Mitigation Measure 4.2-11 requires that existing native tree species are incorporated into the planned landscaping design in public spaces such as open space, parks, and parkways.
Policy NR.4.4	Prior to the approval of any public or private development project in areas identified or assumed to contain trees, the City shall require that a determinate survey of trees species and size be performed. If any native oaks or other native trees six inches or more in diameter at breast height (dbh), multi-trunk	As discussed in Chapter 4.2, Biological Resources, of this EIR, the study area contains a total of 149 trees that meet the definition of a Protected Tree as defined in the City's Tree Preservation Ordinance. The proposed project would include the removal of 140 of the existing protected trees within the study area. The nine protected trees within the Morrison Creek

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
	native oaks or native trees of 10 inches or greater dbh, or non-native trees of 18 inches or greater dbh that have been determined by a certified arborist to be in good health are found to occur, such trees shall be avoided if feasible. If such trees cannot be avoided, the project applicant shall do one of the following: All such trees shall be replaced at an inch- for-inch ratio. A replacement tree planting plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the City of Rancho Cordova for approval prior to removal of trees; or, The project applicant shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City of Rancho Cordova. The mitigation plan shall be subject to the approval of the City. If the City of Rancho Cordova adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.	Offsite would be preserved as part of the project. Implementation of Mitigation Measures 4.2-12 would reduce all potential impacts related to the City's tree protection standards to less-than-significant levels. Thus, the proposed project would be consistent with the policy.
Policy NR.5.3	Protect surface and ground water from major sources of pollution, including hazardous materials contamination and urban runoff.	As discussed under Impact 4.6-1 in Chapter 4.6, Hydrology and Water Quality, of this EIR, the project applicant would be required by the State to comply with the most current Construction General Permit requirements. Per the requirements, a Storm Water Pollution Prevention Plan would be prepared for the overall project, which would include the site map, drainage patterns and stormwater collection and discharge points, Best Management Practices (BMPs), and a monitoring and reporting framework for implementation of BMPs, as necessary. Mitigation Measure 4.4-2 requires the preparation and submittal of a SWPPP. In addition, a Notice of Intent (NOI) would be filed with Regional Water Quality Control Board (RWQCB). In order to further minimize the potential for, and effects from, accidental spills of hazardous, toxic, or petroleum substances during construction activities, Mitigation Measure 4.6-1(b) requires the project to prepare and implement a Spill Prevention Countermeasure and Control Plan (SPCC) prior to the commencement of ground-disturbing activities. The SPCC would specify measures and procedures to minimize the potential for, and

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
		effects from, spills of hazardous, toxic, or petroleum substances during all construction activities, and shall meet the requirements specified in the Code of Federal Regulations, Title 40, Part 112. Furthermore, Mitigation Measure 4.6-2 requires the project applicant to submit a detailed BMP and water quality maintenance plan to ensure the standards of the City's National Pollutant Discharge Elimination System Permit, the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment, and the Stormwater Quality Design Manual for the Sacramento region, are met by the proposed project during operation. Compliance with the aforementioned mitigation measures and regulations would ensure the proposed project is consistent with Policy NR.5.3.
Policy NR.5.4	Prevent contamination of the groundwater table and surface water, and remedy existing contamination to the extent practicable.	See response to Policy NR.5.3 above regarding the proposed project's prevention of groundwater and surface water contamination. As discussed in Chapter 4.5, Hazards and Hazardous Materials, of this EIR, groundwater contamination would not pose a substantial risk to workers or residents on the project site. However, the potential UST, unknown underground storage system, and other potential fuel storage vessels located within APNs 073-0010-011 and 072-0300-008 could pose a risk to workers during project construction. In addition, the soils in the vicinity of the wooden structures located at APN 072-0300-002 and APN 072-0300-008 have the potential to be contaminated with termiticides. However, Mitigation Measures 4.5-2(a), (b), (d), and (f) require appropriate procedures be followed in the event that soil or groundwater contamination is identified associated with such sufficient to ensure that any contamination would be adequately remedied and risks to people would not occur. Therefore, the proposed project would be consistent with Policy NR.5.4.
Policy NR.5.5	Minimize erosion to stream channels resulting from new development in urban areas consistent with State law.	Mitigation Measure 4.4-2 requires preparation and submittal of a SWPPP, which would be designed to control pollutant discharges using BMPs and technology to reduce erosion and discharge of sediments associated with project construction activities. In addition, runoff from impervious surfaces created as part of the proposed project would be routed to two bio-retention basins in the northwest portion of the development area, which would

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
		detain and treat runoff prior to discharging treated runoff to a hydromodification basin located in between the two bio-retention basins. The hydromodification basin would allow for metering of flows discharged to Morrison Creek. The project would also incorporate Low Impact Development (LID) controls such as disconnected pavement, disconnected roof drains, and interceptor trees to help reduce stormwater runoff, thereby ensuring that the project would not result in increased erosion of downstream waterways. Thus, the proposed project would be consistent with the policy.
Policy S.1.5	The City shall require written confirmation from applicable local, regional, state, and federal agencies that known contaminated sites have been deemed remediated to a level appropriate for land uses proposed prior to the City approving site development or provide an approved remediation plan that demonstrates how contamination will be remediated prior to site occupancy. This documentation will specify the extent of development allowed on the remediated site as well as any special conditions and/or restrictions on future land uses.	As noted in the Initial Study prepared for the proposed project, the project site has not been listed as a past or present hazardous materials site. The nearest hazardous materials site is a McDonnell Douglas test site, which is located approximately 0.80-mile from the project site. Furthermore, Mitigation Measures 4.5-2(a) through (f) in this EIR would ensure that all potential impacts associated with existing on-site hazards and hazardous materials would be reduced to less-than-significant levels. Thus, the proposed project would be consistent with the policy.
Policy S.3.2	Ensure that new structures are protected from damage caused by geologic and/or soil conditions to the greatest extent feasible.	As discussed under Impact 4.4-3 of this EIR, the project site geological and soil conditions are preliminarily considered suitable for the proposed construction. In addition, the required compliance with the California Building Standards Code would ensure that all proposed structures are designed appropriately. Nonetheless, implementation of Mitigation Measure 4.4-3, which requires preparation of and compliance with a final geotechnical engineering report, would ensure that new structures are protected from damage cause by geologic and/or soil conditions. As a result, the project would comply with Policy S.3.2.
Policy AQ.1.2	Evaluate projects for compliance with State and federal ambient air quality standards and the Sacramento Metropolitan Air Quality Management District's (SMAQMD) thresholds of significance. (Refer to Table AQ-3 in this Element for ambient air quality standards.)	Impacts 4.1-1 and 4.1-2 within this EIR compare project-generated emissions to the SMAQMD's threshold of significance. As noted therein, the project would not result in emissions which exceed such standards and, therefore, the project would be in compliance with State and federal AAQS. As a result, the project would comply with Policy AQ.1.2.
Policy AQ.2.5	Utilize the guidelines in the California Air Resources Control Board Air Quality and Land Use Handbook: A Community Health Perspective when evaluating new development	The EIR includes an evaluation of toxic air contaminant (TAC) emissions under Impact 4.1-3. As noted therein, the proposed project would not involve any land uses or operations that would be considered major

Table 4.7-5
City of Rancho Cordova General Plan Policy Discussion

Policy		Project Consistency
	requests that either would generate toxic air contaminant emissions near sensitive receptors or locate new sensitive receptors near existing sources of air toxic emissions or order to minimize health hazards, and implement all feasible best available control technology, as required by SMAQMD.	sources of TACs. In addition, consistent with the California Air Resources Control Board's Air Quality and Land Use Handbook, construction of the proposed project would not generate substantial TAC emissions that would adversely affect nearby sensitive receptors. As a result, the project would comply with Policy AQ.2.5.
Policy N.1.2	Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.	Impacts related to noise are addressed in Chapter 4.8 of this EIR. As discussed under Impact 4.8-2, the project is not located in an area subjected to substantial ambient noise. However, exterior traffic noise and park-related noise at the proposed residences could exceed the City's noise level standards. In order to ensure that the noise levels would be reduced sufficient to comply with the City's standards, the City will require solid noise barriers to be constructed as a condition of approval. As a result, the project would comply with Policy N.1.2.
Policy N.1.4	Mitigate noise created by proposed non-transportation noise sources to comply with the City's noise standards to the maximum extent feasible.	As discussed in Chapter 4.8 of this EIR, considering the project primarily consists of single-family residences, the proposed project is not anticipated to generate substantial non-transportation noise. As a result, the project would comply with Policy N.1.4.
Policy N.1.7	To the extent feasible and appropriate, the City shall require the use of temporary construction noise control measures for public and private project that may include the use of temporary noise barriers, temporary relocation of noise-sensitive land uses or other appropriate measures.	Construction-related noise is addressed under Impact 4.8-1 of this EIR. As noted under Impact 4.8-1, construction noise is exempt from the City's Noise Ordinance during allowable hours, which would be enforced through Mitigation Measure 4.8-1. As a result, the use of additional noise control measures is not warranted during construction of the proposed project, and the project would generally comply with Policy N.1.7.

4.8 Noise

4.8 NOISE

4.8.1 INTRODUCTION

The Noise chapter of the EIR describes the existing noise environment in the project vicinity, and identifies potential impacts and mitigation measures related to noise and vibration associated with construction and operation of the proposed project. The method by which the potential impacts are analyzed is discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant noise and vibration impacts to less-than-significant levels, if required. The Noise chapter is primarily based on the Environmental Noise & Vibration Assessment prepared for the proposed project by Bollard Acoustical Consultants, Inc. (see Appendix I),[1] the City of Rancho Cordova General Plan,[2] and the associated EIR.[3]

It is noted that the Environmental Noise & Vibration Assessment was prepared when a prior iteration of the project included only 434 residential units, as compared to the currently-proposed 440 units. Bollard Acoustical Consultants prepared an update memorandum confirming that the changes in noise levels associated with the six additional units would not change the conclusions presented in the Environmental Noise & Vibration Assessment.[4] As a result, all conclusions presented within this chapter remain applicable.

4.8.2 EXISTING ENVIRONMENTAL SETTING

The Existing Environmental Setting section provides background information on noise and vibration, a discussion of acoustical terminology and the effects of noise on people, existing sensitive receptors in the project vicinity, existing sources and noise levels in the project vicinity, and groundborne vibration.

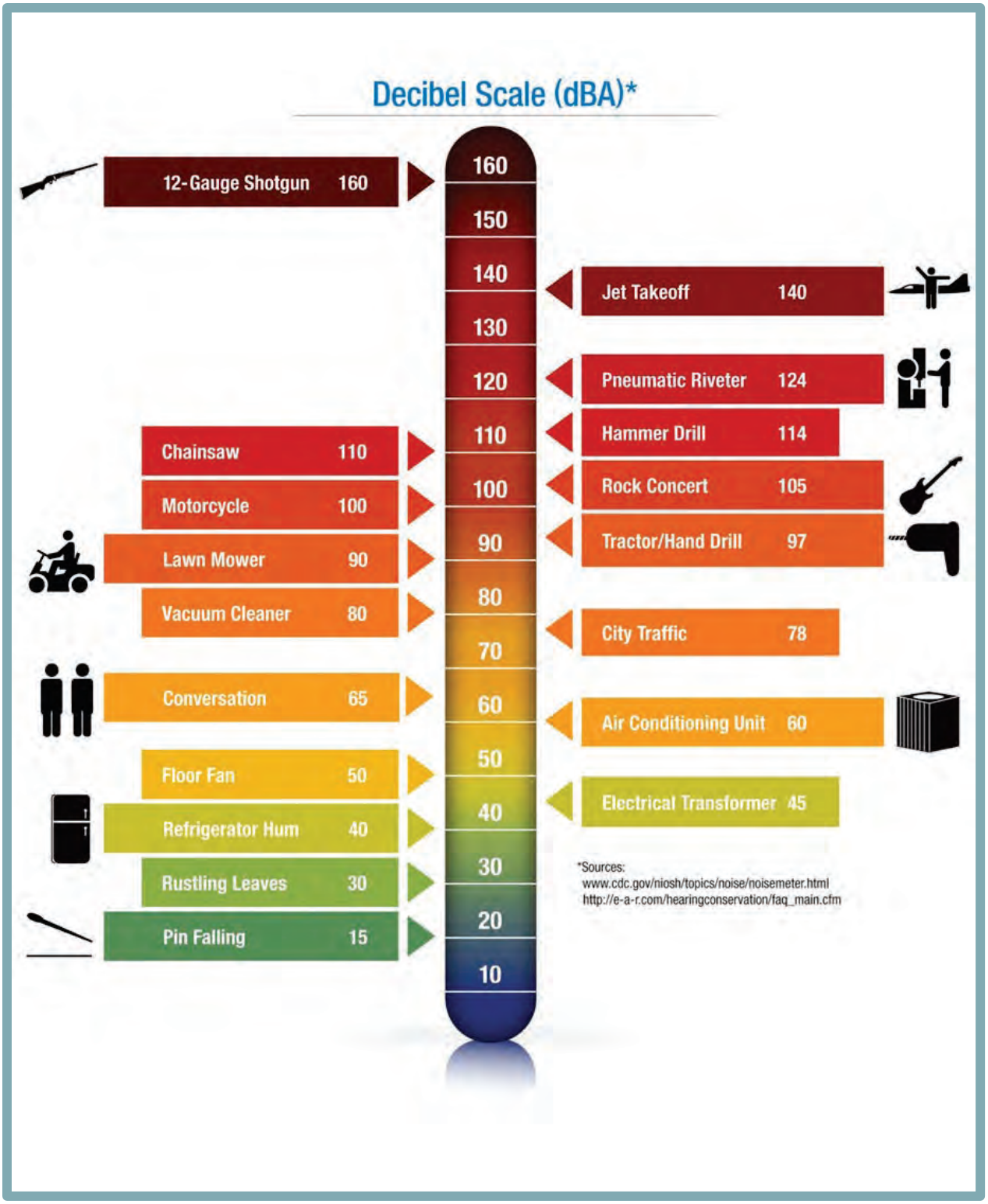
Fundamentals of Noise and Vibration

Decibels (dB) are logarithmic units that compare the wide range of sound intensities to which the human ear is sensitive. The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the typical range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network. A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and the use of A-weighted sound level, expressed as dBA, has become the standard tool of environmental noise assessment. Noise levels associated with common noise sources are provided in Figure 4.8-1.

---

1 Bollard Acoustical Consultants, Inc. *Environmental Noise & Vibration Assessment, The Preserve Residential Development.* September 3, 2020.
2 City of Rancho Cordova. *General Plan*. Adopted June 26, 2006.
3 City of Rancho Cordova. *General Plan Environmental Impact Report.* 2006.
4 Bollard Acoustical Consultants, Inc. *Changes in noise levels associated with the addition of six (6) units for the proposed Preserve Residential Development in Rancho Cordova, California*. January 5, 2021.

Figure 4.8-1
Noise Levels Associated with Common Noise Sources



Source: Bollard Acoustical Consultants, Inc. (2020).

Community Noise Equivalent Level (CNEL), which can be used to compare the noise level of neighborhoods, is the weighted average noise level over time, presented in dB. Community noise is also commonly described in terms of the ambient noise level, which is defined as the overall noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}). The L_{eq} is the foundation of the day-night average noise descriptor, or L_{dn}, and represents a correlation with community response to noise.

The L_{dn} is based on the average noise level over a 24-hours, with an additional 10 dB weighting applied to noise that occurs during nighttime hours (10:00 PM to 7:00 AM). The 10 dB nighttime penalty is applied to account for the assumption that people are more sensitive to nighttime noise exposures as compared to daytime noise exposures.

Stationary sources of noise, including construction equipment, attenuate at a rate of 6.0 to 7.5 dB per doubling of distance from the source depending on ground absorption. Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, increase the efficacy of noise attenuation that occurs by distance alone.

Vibration is similar to noise in that both involve a source, a transmission path, and a receiver. However, while noise is generally considered to be pressure waves transmitted through air, vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency.

A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating. Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration levels in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

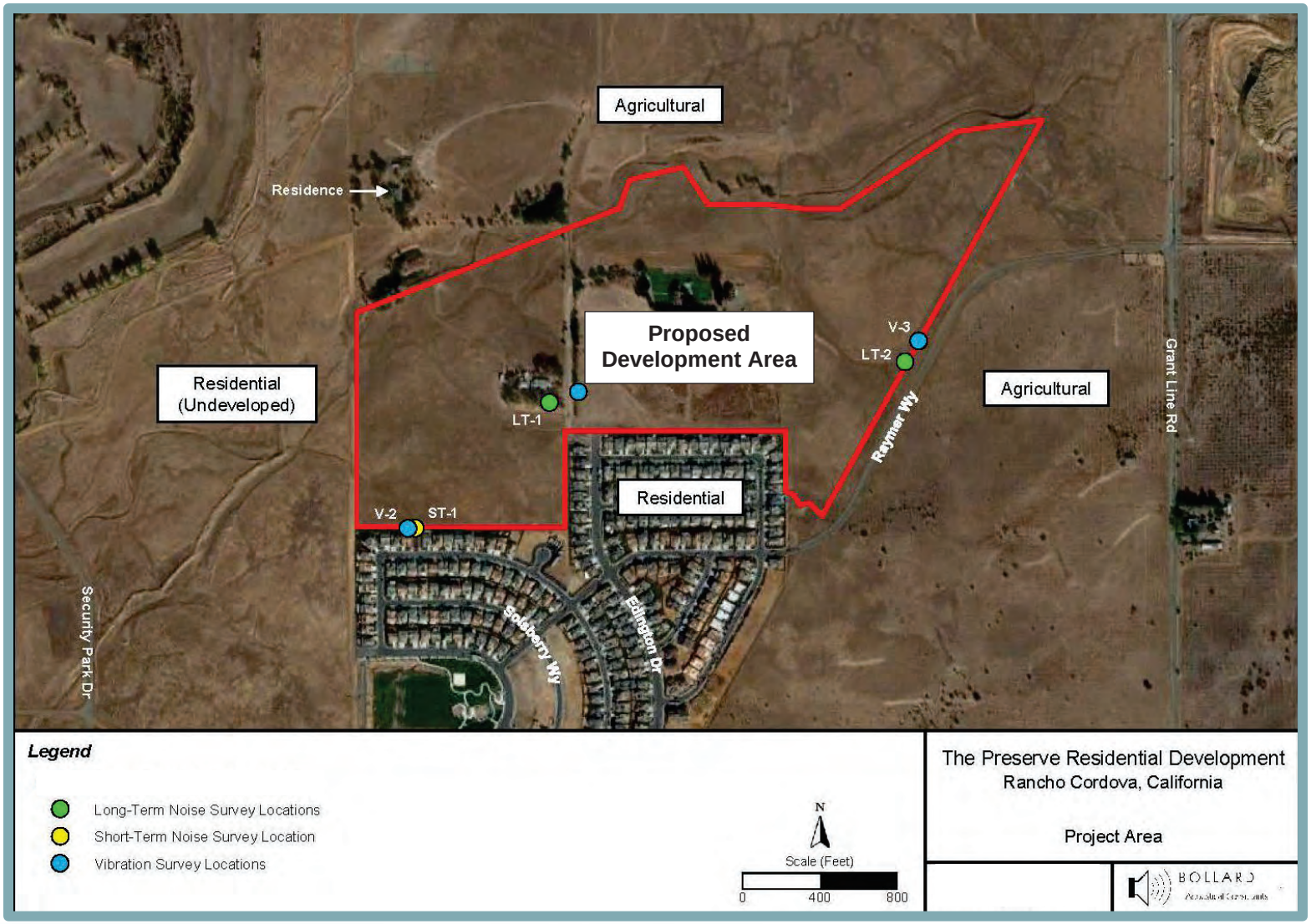
Existing Sensitive Receptors

Certain land uses are more sensitive to ambient noise levels than others due to the amount of noise exposure (in terms of both exposure time and shielding from noise sources) and the type of activities typically involved. Noise sensitive land uses typically include residences, schools, child care centers, hospitals, long-term health care facilities, convalescent centers, retirement homes, and recreation areas. Sensitive receptors in the project vicinity include the single-family residential subdivision located directly south of the site and the existing single-family residence located within the northern portion of the project site. The nearest residence is approximately 25 feet south of the project site boundary.

Existing Noise Sources and Ambient Noise Levels

Per the Environmental Noise & Vibration Assessment, the existing ambient noise environment within the project area is defined primarily by noise from traffic on Grant Line Road and Raymer Way. To quantify existing ambient noise levels in the project vicinity, Bollard Acoustical Consultants conducted two long-term (48-hour) ambient noise surveys from July 10 to 12, 2019 and one short-term (15-minute) ambient noise survey on July 10, 2019. The results of the long-term and short-term noise measurements are summarized in Table 4.8-1 and Table 4.8-2, respectively. The locations of the noise measurement sites are shown in Figure 4.8-2.

Figure 4.8-2
Noise Measurement Locations



Source: Bollard Acoustical Consultant, Inc. (2020).

Table 4.8-1
Long-Term Noise Level Measurement Results[1]

Site[2]	Description	Date	L_{dn}	Average Measured Hourly Noise Levels, dB			
				Daytime[3]		Nighttime[4]	
				L_{eq}	L_{max}	L_{eq}	L_{max}
LT-1	Centrally located on project site, near terminus of Edington Drive	7/10-7/11	47	45	62	40	51
		7/11-7/12	47	45	60	39	53
LT-2	Eastern end of project site, approximately 90 feet from centerline of Raymer Way	7/10-7/11	55	50	69	49	65
		7/11-7/12	55	51	72	48	65

Notes:
[1] Detailed summaries of the noise monitoring results are provided in Appendices D and E of the project-specific Environmental Noise & Vibration Assessment (Appendix I of this EIR).
[2] Noise monitoring locations are identified in Figure 4.8-2.
[3] Daytime hours: 7:00 AM to 10:00 PM.
[4] Nighttime hours: 10:00 PM to 7:00 AM.

Source: Bollard Acoustical Consultants, Inc. (2020).

Table 4.8-2
Short-Term Noise Level Measurement Results

Site[1]	Description	Time of Day	Measured Noise Levels, dB	
			L_{eq}	L_{max}
ST-1	Southwestern end of the project site	12:23 PM	42	58

Notes:
[1] Noise monitoring location is identified in Figure 4.8-2.

Source: Bollard Acoustical Consultants, Inc. (2020).

Existing Traffic Noise Levels

Traffic volumes for existing conditions were obtained from the traffic study prepared for the proposed project by Kimley-Horn & Associates, Inc. The traffic noise levels at 100 feet away from the roadway centerline were calculated based on the traffic volume data and the Federal Highway Administration (FHWA) Model. For this analysis, 88 roadway segments were evaluated. Modeled noise levels at 100 feet from each roadway centerline ranged between 37 and 72 L_{dn}. The modeled traffic noises for each roadway segment are summarized in Table 1 of the Environmental Noise & Vibration Assessment.

Factors such as roadway curvature, roadway grade, shielding from local topography or structures, elevated roadways, or elevated receivers may affect actual sound propagation. In addition, existing sensitive receptors within the project vicinity are located varying distances from the roadway centerline. Nonetheless, the 100-foot reference distance is used for the purposed of this analysis to provide a reference position for comparisons between existing and anticipated future traffic noise levels with and without implementation of the proposed project.

Existing Ambient Vibration Levels

To quantify existing vibration levels at the project site, Bollard Acoustical Consultants conducted short-term (15 minute) vibration measurements at the project site on July 10, 2019. The measured

average vibration levels within the project area were less than 0.001 in/sec PPV, as shown in Table 4.8-3.

Table 4.8-3
Ambient Vibration Monitoring Results – July 10, 2019

Site[1]	Description	Time	Average Measured Vibration Level, PPV (in. sec)
V-1	Eastern end of the project site	11:36 AM	<0.001
V-2	Centrally located on the project site	12:23 PM	<0.001
V-3	Southwestern end of the project site	12:58 PM	<0.001

Notes:
[1] Noise monitoring location is identified in Figure 4.8-2.

Source: Bollard Acoustical Consultants, Inc. (2020).

4.8.3 REGULATORY CONTEXT

In order to limit exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. Applicable federal laws or regulations pertaining to noise or vibration do not exist. The following provides a general overview of the existing State and local regulations that are relevant to the proposed project.

State Regulations

The following are the State environmental laws and policies relevant to noise.

California State Building Codes

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations (CCR), establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings.

Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

Local Regulations

The following are the local environmental goals and policies relevant to noise.

City of Rancho Cordova General Plan

The relevant goals and policies from the City of Rancho Cordova General Plan related to noise are presented below.

Goal N.1. Ensure that all new development will be free of noise disturbances.

Policy N.1.1 Establish standards and policies consistent with those in Table 4.8-4 and Table 4.8-5 [General Plan Tables N-1 and N-2] to govern maximum sound levels in new development.

Table 4.8-4
City Noise Standards:
Noise Level Performance Standards for New Projects Affected by or Including Non-Transportation Noise Sources

Stationary Noise Sources	Noise Level Descriptor	Daytime Maximum (7 AM to 10 PM)	Nighttime Maximum (10 PM to 7 AM)
Typical	Hourly, L_{eq}, dB	55	45
Tonal, impulsive, repetitive or consist primarily of speech or music	Hourly, L_{eq}, dB	50	40

Note: The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels.

Source*: *Rancho Cordova General Plan, June 2006.

Table 4.8-5
Maximum Transportation Noise Exposure

Land Use	Outdoor Activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}, dB[2]
Residential	60[3]	45	--
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources with produce clearly identifiable discrete noise events (e.g., the passing of a single train)	60[3]	40[5]	--
Transient lodging	60[4]	45	--
Hospitals, nursing homes	60[3]	45	--
Theaters, auditoriums	--	--	35
Churches, meeting halls	60[3]	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

Notes:
1. 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.
2. As determined for a typical worst-case hour during periods of use.
3. 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.
4. 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.
5. The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

Source*: *Rancho Cordova General Plan, June 2006.

Policy N.1.2 Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.

Policy N.1.4 Mitigate noise created by proposed non-transportation noise sources to comply with the City's noise standards to the maximum extent feasible.

Policy N.1.5 Mitigate noise created by the construction of new transportation noise sources to the maximum extent feasible to comply with the City's standards.

Policy N.1.6 Ensure that comfortable noise levels and adequate privacy are maintained in higher density development.

Policy N.1.7 To the extent feasible and appropriate, the City shall require the use of temporary construction noise control measures for public and private project that may include the use of temporary noise barriers, temporary relocation of noise-sensitive land uses or other appropriate measures.

Rancho Cordova Noise Ordinance

Chapter 6.68 of the Rancho Cordova Municipal Code establishes interior and exterior noise level standards for noise-sensitive receptors. The purpose of the Noise Ordinance is to assess complaints of noises alleged to exceed the ambient noise levels. Relevant provisions of the Noise Ordinance are presented below.

6.68.070 Exterior noise standards.

A. The following noise standards [see Table 4.8-6], unless otherwise specifically indicated in this chapter, shall apply to all properties within a designated noise area:

Table 4.8-6
Rancho Cordova Municipal Code Exterior Noise Standards

Noise Area	City Zoning Districts	Time Period	Exterior Noise
1	RE-1, RD-1, RE-2, RD-2, RE-3, RD-3, RD-4, R-1-A, RD-5, R-2, RD-10, R-2A, RD-20, R-3, RD-30, RD-40, RM-1, RM-2, A-1-B, AR-1, A-2, AR-2, AR-5	7:00 AM – 10:00 PM	55 dBA
		10:00 PM – 7:00 AM	50 dBA

Source: Rancho Cordova Municipal Code, Chapter 6.68, Code Section 6.68.070(A).

B. It is unlawful for any person at any location within the city to create any noise which causes the noise levels on an 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 [see Table 4.8-7]:

Table 4.8-7
Rancho Cordova Municipal Code Allowable Duration of Intrusive Sound

Cumulative Duration of the Intrusive Sound	Allowable Decibels
Cumulative period of 30 minutes per hour	0
Cumulative period of 15 minutes per hour	+5
Cumulative period of 5 minutes per hour	+10
Cumulative period of 1 minute per hour	+15
Level not to be exceeded for any time per hour	+20
Source: Rancho Cordova Municipal Code, Chapter 6.68, Code Section 6.68.070(B).	

C. Each of the noise limits specified in subsection (B) of this section shall be reduced by 5 dBA for impulsive or simple tone noises, or for noises consisting of speech or music.

D. If the ambient noise level exceeds that permitted by any of the first four noise-limit categories specified in subsection (B) of this section, the allowable noise limit shall be increased in 5 dBA increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth noise level category, the maximum ambient noise level shall be the noise limit for that category.

6.68.090 Exemptions.

The following activities shall be exempted from the provisions of this chapter:

E. Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of 8:00 PM and 6:00 AM on weekdays and Friday commencing at 8:00 PM through and including 7:00 AM on Saturday, Saturdays commencing at 8:00 PM through and including 7:00 AM on the next following Sunday, and on each Sunday after the hour of 8:00 PM; provided, however when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8:00 PM, and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

As shown above, the maximum allowable exterior noise level for residential districts is 55 dB between the hours of 7:00 AM and 10:00 PM, and 50 dB between the hours of 10:00 PM and 7:00 AM. Construction noise is exempt from the Noise Ordinance if construction activities occur between 6:00 AM and 8:00 PM on weekdays and 7:00 AM and 8:00 PM on weekends.

4.8.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to noise and vibration. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Impacts of the environment on a project (as opposed to impacts of a project on the environment) are beyond the scope of required California Environmental Quality Act (CEQA) review. "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the

significant effects of the environment on the project." (*Ballona Wetlands Land Trust v. City of Los Angeles,* (2011) 201 Cal.App.4th 455, 473 (*Ballona*).) The impacts discussed in this section of the EIR relate both to noise that may be caused by the proposed project (e.g. construction noise and operational traffic added to surrounding streets) as well as effects of existing environmental noise sources on future residents of the project (e.g. background traffic on surrounding streets). The California Supreme Court recently held that "CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. What CEQA does mandate… is an analysis of how a project might exacerbate existing environmental hazards." (*California Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 392; see also *Mission Bay Alliance v. Office of Community Investment & Infrastructure* (2016) 6 Cal.App.5th 160, 197 ["identifying the effects on the project and its users of locating the project in a particular environmental setting is neither consistent with CEQA's legislative purpose nor required by the CEQA statutes"], quoting *Ballona*, *supra*, 201 Cal.App.4th at p. 474.) Therefore, for the purposes of the CEQA analysis, the relevant inquiry is not whether the proposed project's future residents will be exposed to preexisting environmental noise-related hazards, but instead whether project-generated noise will exacerbate the pre-existing conditions. Nonetheless, for informational purposes, this chapter considers the proposed project's contribution to the existing noise environment on both existing sensitive receptors and future residents of the proposed project.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. For the purposes of this EIR, an impact is considered significant if the proposed project would result in any of the following:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; or
- Generation of excessive groundborne vibration or groundborne noise levels.

Issues Dismissed in the Initial Study

The nearest airport to the project site is the Mather Airport, located approximately five miles to the west of the project site. Therefore, the following impact was dismissed in the Initial Study (Appendix A):

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Accordingly, the above impact is not analyzed further in this EIR.

Summary of Applicable Noise Standards

Applicable noise level standards related to noise and vibration are summarized below.

Applicable Non-Transportation Noise Criteria

The Noise Element of the General Plan sets forth performance standards for non-transportation sources, as represented in Table 4.8-4. The proposed project would be required to comply with the noise standards presented therein. As such, noise generated by typical stationary noise sources shall not exceed 55 dB L_{eq} during daytime hours or 45 dB L_{eq} during nighttime hours, and noise generated by speech or music sources shall not exceed 50 dB L_{eq} during daytime hours or 40 dB L_{eq} during nighttime hours. In addition, Table 4.8-6 presents the Municipal Code noise standards for areas zoned residential. Considering the nearest noise-sensitive receptors to the project site are residential land uses, the proposed project must not generate noise that would exceed 55 dBA during daytime hours or 50 dBA during nighttime hours at the nearby residences.

Applicable Transportation Noise Criteria

The proposed project would be subject to the Residential Land Use transportation noise exposure limits set forth in the Noise Element of the General Plan. As noted therein, and as shown in Table 4.8-5, the maximum transportation noise at the closest residences must be limited to 60 dB L_{dn} at outdoor activity spaces and 45 dB L_{dn} at indoor spaces.

Substantial Increase Criteria

Generally, a project may have a significant effect on the environment if the project will substantially increase the ambient noise levels for adjoining areas or expose people to measurably severe noise levels. In practice, a noise impact may be considered significant if the project would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in transportation noise associated with the proposed project is a factor in determining significance.

The City of Rancho Cordova does not have an adopted policy for assessing noise impacts associated with increases in ambient noise levels from project-generated traffic within the project vicinity. As a result, the federal noise criteria established by the Federal Interagency Commission on Noise (FICON) was applied to the project. Table 4.8-8 was developed by FICON as a means of developing thresholds for identifying project-related noise level increases. The rationale for the graduated scales is that test subject's reactions to increases in noise levels vary depending on the starting level of noise. Specifically, in lower ambient noise environments, such as those below 60 dB L_{dn}, a larger increase in noise levels was required to achieve a negative reaction as compared to the change in noise levels that was necessary in environments where noise levels were already elevated. The approach to assessing the significance of increases in off-site traffic noise is consistent with other local EIRs and is considered to be the industry-standard approach.

Table 4.8-8
Significance of Changes in Cumulative Noise Exposure

Ambient Noise Level Without Project, dB	Increase Required for Significant Impact
<60	+5.0 dB or more
60-65	+3.0 dB or more
>65	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON).

Vibration

The City of Rancho Cordova does not have specific policies or standards pertaining to vibration levels. However, vibration levels associated with construction activities and project operations are

addressed as potential vibration impacts associated with project implementation. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events.

Construction activities have the potential to result in varying degrees of temporary ground vibration depending on the specific construction equipment used and operations involved. Table 4.8-9 indicates that, per California Department of Transportation (Caltrans) standards, the threshold for vibration damage to new residential structures is 1.00 in/sec PPV for transient sources and 0.50 in/sec PPV for continuous sources. For older residential structures, the threshold for damage is 0.50 in/sec PPV for transient sources and 0.30 in/sec PPV for continuous sources.

Table 4.8-9
Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (inches/second)	
	Transient Sources	Continuous/ Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual (2013).

In addition, as shown in Table 4.8-10, humans are able to perceive vibrations from transient sources at a threshold of 0.40 in/sec PPV and from continuous sources at a threshold of 0.01 in/sec PPV. Transient sources of vibrations of 0.25 in/sec PPV, or greater, and continuous vibrations of 0.04 in/sec PPV, would likely cause annoyance to sensitive receptors.

Method of Analysis

Below are descriptions of the methodologies utilized to measure background and ambient noise and estimate future traffic noise, construction noise, and vibration associated with the project. Further modeling details and calculations are provided in Appendix I to this EIR. The results of the noise and vibration impact analyses were compared to the standards of significance discussed above in order to determine the associated level of impact.

To predict existing noise levels due to traffic, Bollard Acoustical Consultants used the FHWA Traffic Noise Model (FHWA-RD-77-108) to develop existing noise contours expressed in terms of L_{dn} for the major roadways within the project vicinity. The FHWA model is based upon the noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle

volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

Table 4.8-10
Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (inches/second)	
	Transient Sources	Continuous/ Frequent Intermittent Sources
Barely perceptible	0.40	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual (2013).

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict L_{dn}/CNEL values, determination of the day/night distribution of traffic and adjustment of the traffic volume input data is necessary to yield an equivalent hourly traffic volume. The FHWA model was used in conjunction with traffic volumes provided by Kimley-Horn & Associates to analyze the potential impact of the proposed project and project-generated traffic under Existing Plus Project conditions and future Cumulative Plus Project conditions.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used to conduct the noise level measurement surveys on the project site. The meters were calibrated before use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements, and the equipment met all specifications of the American National Standards Institute requirements for Type 1 sound level meters. An LDL Model LxT precision integrating sound level meter equipped with a vibration transducer was used to complete the ambient vibration measurements.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the baseline and standards of significance identified above.

4.8-1 Generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Based on the analysis below and with implementation of mitigation, the impact is *less than significant.*

Construction activities associated with the proposed project, including off-site improvements, would require the use of numerous pieces of noise-generating equipment, such as excavating machinery (e.g., backhoes, bulldozers, excavators, front loaders) and other construction equipment (e.g., compactors, scrapers, graders).

Construction worker traffic and construction-related material haul trips could result in temporary noise level increases along local haul routes, depending on the number of haul trips made and types of vehicles used.

The noise levels generated by construction equipment vary depending upon factors such as the type and specific model of the equipment, the operation being performed, the condition of the equipment and the prevailing wind direction. Table 4.8-11 presents typical maximum noise levels for commonly-used construction equipment at a distance of 50 feet. In addition, the table presents the anticipated maximum noise levels that would be experienced by the nearest sensitive receptors, which are located approximately 25 feet away.

Table 4.8-11
Typical Construction Equipment Noise Levels

Equipment Type	Maximum Noise Level at 50 Feet (dBA)	Predicted Maximum Noise Levels at 25 Feet (dBA)
Air compressor	80	86
Backhoe	80	86
Compactor	82	88
Concrete mixer	85	91
Crane, mobile	83	89
Dozer	85	91
Excavator	85	91
Generator	82	88
Grader	85	91
Loader	80	86
Paver	85	91
Pneumatic tool	85	91
Pump	77	83
Saw	76	82
Scraper	85	91
Shovel	82	88
Truck	84	90

Source: Federal Transit Administration Noise and Vibration Impact Assessment Manual, 2018.

As shown in Table 4.8-11, maximum noise levels generated by various types of construction equipment can range from 82 to 91 dBA at 25 feet. Considering the nearest noise-sensitive receptors are located approximately 25 feet away from the proposed development area, such receptors could be exposed to noise levels ranging from approximately 82 dB to 91 dB, which would exceed the applicable Rancho Cordova General Plan noise level limits (see Table 4.8-4).

Given that construction equipment would operate at various portions of the project site at any one time and most construction activity would occur farther than 25 feet from the nearest sensitive receptors, project construction noise at nearby sensitive receptors would likely be lower than the reference levels presented in Table 4.8-11. In addition, on-site construction activities would be temporary in nature and would be limited to the following time periods per Section 6.68.090 of the City's Municipal Code: between 6:00 AM and 8:00 PM on weekdays and 7:00 AM and 8:00 PM on weekends. Per Section 6.68.090 of the Municipal Code, construction noise that occurs during

such hours is exempt from the noise level standards included in the City's Noise Ordinance.

Nonetheless, if construction activities were to occur outside of the exempted hours, construction activity would generate noise levels that would exceed the noise standards set forth in the City's General Plan and Municipal Code. As such, implementation of the project could result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.8-1 *The following criteria shall be noted on project Improvement Plans. Improvement Plans shall be submitted to the City's Community Development Department for review and approval.*

- *Consistent with Section 6.68.090 of the Rancho Cordova Municipal Code, noise-generating construction activities shall be limited to the hours of 6:00 AM to 8:00 PM on weekdays and 7:00 AM to 8:00 PM on weekends.*

4.8-2 Generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Based on the analysis below, the impact is *less than significant.*

The primary noise sources associated with development of the proposed 440-unit single-family subdivision would be noise associated with use of the proposed on-site public park areas and traffic noise associated with increased traffic volumes on the local roadway network. Both noise sources are discussed below with respect to future noise levels at the proposed residences and at existing noise-sensitive receptors in the project vicinity.

Noise Levels at the Proposed Residences

As noted previously, CEQA does not require an analysis of the environment's impact on the project; however, noise-related impacts to future residents of the proposed project is evaluated for informational purposes and to consider consistency with the policies set forth in the City's General Plan.

Park Noise at the Proposed Residences

The proposed project would include development of two public parks adjacent to the proposed residences in the northern portion of the development area, next to Morrison Creek. Noise generated by park activities would primarily consist of human speech (i.e., shouting and cheering during activities) and, thus, would be subject to the

General Plan's more restrictive noise standards (see Table 4.8-4). For this analysis, it is assumed that public park use would be restricted to daytime hours (7:00 AM to 10:00 PM). In addition, to provide a conservative estimate of park noise, this analysis assumed that the proposed public parks would have active uses (i.e., play structures, playing fields) rather than passive uses (i.e., picnic tables, sitting areas).

According to the Environmental Noise & Vibration Assessment, parks consisting of active uses/playing fields typically generate noise levels between 50 dB L_{eq} and 70 dB L_{max} at a distance of 100 feet. The nearest proposed residential uses would be located approximately 70 feet from the center of the park areas. Based on the reference noise levels and standard noise attenuation, park activity noise exposure at the nearest proposed residences was calculated to be approximately 53 dB L_{eq}, which would exceed the applicable Rancho Cordova General Plan daytime hourly average noise level standard of 50 dB L_{eq} for tonal, speech, or music noise sources.

Exterior Traffic Noise at the Project Site

The FHWA Model was used with future traffic data to predict future exterior traffic noise levels at the proposed residential and park uses. The future (Cumulative Plus Project) average daily traffic (ADT) volumes for Grant Line Road and Raymer Way were calculated using data provided in the project traffic impact analysis prepared by Kimley-Horn & Associates, Inc. By using traffic data from Cumulative Plus Project Conditions, as opposed to Existing Plus Project Conditions, this analysis presents a worst-case scenario. The predicted future Grant Line Road and Raymer Way traffic noise levels at the nearest proposed residential and park uses are summarized in Table 4.8-12.

As indicated in Table 4.8-12, predicted future combined Grant Line Road and Raymer Way traffic noise level exposure at the nearest proposed park use would satisfy the applicable Ranch Cordova General Plan exterior noise level standard of 70 dB L_{dn} for playgrounds and neighborhood park uses. However, at the nearest residential backyards, future combined traffic noise level exposure is predicted to exceed the General Plan exterior noise level standard of 60 dB L_{dn} for residential uses.

Interior Traffic Noise at the Project Site

With regard to interior noise levels, modern construction typically provides a 25 dB exterior-to-interior noise level reduction with windows closed and a 15 dB reduction with windows open. The 25 dB level of noise reduction would be adequate to reduce future traffic noise levels within all proposed residences to below the City's General Plan interior noise level standard of 45 dB L_{dn}. Therefore, additional interior noise control measures would not be required in order to reduce traffic noise exposure.

Noise Level Increases at Existing Sensitive Receptors

Traffic data for the Existing and Existing Plus Project conditions in the project area were obtained from the project-specific Transportation Impact Analysis completed by Kimley-Horn & Associates, Inc. Traffic noise levels under Existing and Existing Plus Project conditions are summarized in Table 4.8-13 below.

Table 4.8-12
Future Traffic Noise Levels at Proposed Uses[1]

Roadway[2]	Location	Distance from Centerline (ft)[3]	Future Exterior L_{dn} (dB)[4]
Grant Line Road	Nearest park (Park 1)	1,080	57
	Nearest residential backyards	1,050	57
	Nearest first-floor residential facades	1,060	57
	Nearest upper-floor residential facades	1,060	59
Raymer Way	Nearest park (Park 1)	450	53
	Nearest residential backyards	110	63
	Nearest first-floor residential facades	120	62
	Nearest upper-floor residential facades	120	64
Combined Roadways	Nearest park (Park 1)	--	59
	Nearest residential backyards	--	64
	Nearest first-floor residential facades	--	63
	Nearest upper-floor residential facades	--	65

Notes:
1 A complete listing of FHWA Model inputs and results are provided in Appendix G of the Environmental Noise & Vibration Assessment (see Appendix I to this EIR).
2 Locations of proposed uses are shown on Figure 4.8-2.
3 Distances measured from said locations to the roadway centerline.
4 A +2 dB offset was applied to upper-floor facades for reduced ground absorption of sound at elevated locations.

Source: Bollard Acoustical Consultants, Inc. (2020).

Table 4.8-13
Traffic Noise Modeling Results
Existing vs. Existing Plus Project Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB (L_{dn})		
			Existing	Existing + Project	Change
1	1- Mather Field Rd/ US 50 WB Ramp	North	67.6	67.6	0.0
2		South	68.8	68.8	0.0
3		East	70.1	70.1	0.0
4		West	63.6	63.6	0.0
5	2- Mather Field Rd/ US 50 EB Ramp	North	68.8	68.8	0.0
6		South	69.7	69.7	0.0
7		East	65.0	65.0	0.0
8		West	69.8	69.8	0.0
9	3- Mather Field Rd/ International Dr	North	--	--	--
10		South	60.4	63.0	2.6
11		East	66.8	66.8	0.0
12		West	68.4	69.7	1.3
13	4- Zinfandel Dr/ US 50 WB Ramp	North	68.5	68.5	0.0
14		South	70.0	70.0	0.0
15		East	71.1	71.2	0.1
16		West	64.4	64.4	0.0
17	5- Zinfandel Dr/	North	70.1	70.1	0.0

(Continued on next page)

Table 4.8-13
Traffic Noise Modeling Results
Existing vs. Existing Plus Project Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB (L_{dn})		
			Existing	Existing + Project	Change
18	US 50 EB Ramp	South	70.3	70.3	0.0
19		East	69.5	69.5	0.0
20		West	71.0	71.0	0.0
21	6- Zinfandel Dr/ White Rock Rd	North	70.3	70.3	0.0
22		South	67.9	67.9	0.0
23		East	65.2	65.4	0.2
24		West	64.8	64.8	0.0
25	7- Zinfandel Dr/ International Dr	North	67.0	67.0	0.0
26		South	66.6	66.6	0.0
27		East	65.0	65.0	0.0
28		West	65.8	65.8	0.0
29	8- Sunrise Blvd/ Zinfandel Dr	North	71.4	71.5	0.1
30		South	71.6	71.6	0.0
31		East	52.6	52.6	0.0
32		West	59.6	59.6	0.0
33	9- Sunrise Blvd/ US 50 WB Ramp	North	71.6	71.6	0.0
34		South	70.8	70.8	0.0
35		East	68.5	68.5	0.0
36		West	69.1	69.1	0.0
37	10- Sunrise Blvd/ US 50 EB Ramp	North	70.8	70.9	0.1
38		South	70.2	70.3	0.1
39		East	64.3	64.3	0.0
40		West	70.9	70.9	0.0
41	11- Sunrise Blvd/ Folsom Blvd	North	70.2	70.2	0.0
42		South	69.7	69.7	0.0
43		East	65.2	65.3	0.1
44		West	65.1	65.1	0.0
45	12- Sunrise Blvd/ White Rock Rd	North	68.6	68.6	0.0
46		South	68.5	68.5	0.0
47		East	65.5	65.8	0.3
48		West	65.7	65.9	0.2
49	13- Zinfandel Dr/ Douglas Rd	North	65.3	65.3	0.0
50		South	58.8	58.8	0.0
51		East	65.3	65.3	0.0
52		West	63.7	63.7	0.0
53	14- Sunrise Blvd/ Douglas Rd	North	68.3	68.2	-0.1
54		South	69.5	69.5	0.0
55		East	64.2	64.2	0.0
56		West	65.3	65.3	0.0
57	15- Americanos Blvd/ Douglas Rd	North	53.4	54.2	0.8
58		South	--	--	--
59		East	60.0	60.0	0.0

(Continued on next page)

Table 4.8-13
Traffic Noise Modeling Results
Existing vs. Existing Plus Project Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB (L_{dn})		
			Existing	Existing + Project	Change
60		West	61.3	61.5	0.2
61	16- Sunrise Blvd/ Jackson Rd/SR 16	North	68.8	68.8	0.0
62		South	67.6	67.6	0.0
63		East	66.4	66.4	0.0
64		West	64.9	64.9	0.0
65	17- Grant Line Rd/ Jackson Rd/SR 16	North	64.9	65.2	0.3
66		South	64.2	64.5	0.3
67		East	66.5	66.5	0.0
68		West	66.5	66.5	0.0
69	18- Grant Line Rd/ Keifer Blvd	North	65.8	66.1	0.3
70		South	64.9	65.2	0.3
71		East	57.5	57.9	0.4
72		West	37.5	37.5	0.0
73	19- Grant Line Rd/ Douglas Rd	North	66.4	66.7	0.3
74		South	65.7	66.0	0.3
75		East	--	--	--
76		West	60.1	60.1	0.0
77	20- Grant Line Rd/ Raymer Wy	North	67.6	67.8	0.2
78		South	66.7	67.0	0.3
79		East	--	--	--
80		West	56.1	57.7	1.6
81	21- Grant Line Rd/ White Rock Rd	North	68.4	68.7	0.3
82		South	67.0	67.8	0.8
83		East	--	--	--
84		West	61.3	62.2	0.9
85	22- Prairie City Rd/ White Rock Rd	North	65.6	66.0	0.4
56		South	--	--	--
87		East	64.6	64.8	0.2
88		West	66.3	66.6	0.3

Source: Bollard Acoustical Consultants, Inc. (2020).

Based on the FICON standards described above, where ambient noise conditions are between 60 and 65 dB, a three dB increase is considered to be the applicable standard of significance. In areas where ambient noise levels are less than 60 dB, a five dB increase is considered the threshold applicable threshold of significance. As shown in Table 4.8-13, the largest change in noise levels between the Existing and Existing Plus Project conditions would be 2.6 dB. All other changes in noise levels would be less than 2.6 dB, with the majority being less than one dB.

All project-related traffic noise increases would be below the applicable FICON thresholds shown in Table 4.8-8. Thus, project traffic noise level increases at existing

sensitive receptors under the Existing Plus Project conditions would be less than significant.

Park Noise at Existing Sensitive Receptors

According to the Environmental Noise & Vibration Assessment, parks consisting of active uses/playing fields typically generate noise levels between 50 dB L_{eq} and 70 dB L_{max} at a distance of 100 feet. Because public park use is typically limited to daytime hours, the General Plan daytime hourly average noise level standard of 50 dB L_{eq} was applied at the nearest residences. Based on the aforementioned reference noise levels and standard spherical noise attenuation, park activity noise exposure at the nearest existing single-family residences was calculated and is presented in Table 4.8-14.

Table 4.8-14
Predicted Public Park Activity Noise Levels at Nearest Existing Noise-Sensitive Uses

Noise-Sensitive Receptor[1]	Nearest Park[2]	Distance (ft)[3]	Predicted Noise Levels, L_{eq} (dB)[4]	General Plan Daytime Noise Standard, L_{eq} (dB)
Residences in Subdivision – South	Park 2	1,000	<20	**50**
Residence on Ag. Property – Northwest	Park 2	1,300	28	

Notes:
[1] Locations of existing noise-sensitive receptors are shown on Figure 1 of the Environmental Noise & Vibration Assessment.
[2] Locations of proposed park areas are shown on Figure 2 of the Environmental Noise & Vibration Assessment.
[3] Distances measured from center of nearest park area to receptors.
[4] Predicted park activity noise levels at the nearest residences in the subdivision to the south of the project take into consideration the shielding that would be provided by proposed intervening structures of the development (residences), have been conservatively adjusted by -15 dB to account for this screening.

Source: Bollard Acoustical Consultants, Inc. (2020).

As shown in the table, park noise at the existing sensitive receptors would comply with the City's 50 dB L_{eq} daytime noise standard. Thus, a less-than-significant impact would occur.

Conclusion

Based on the above, exterior traffic noise and park-related noise at the proposed residences could exceed the City's noise level standards. However, such an effect would not be considered an impact under CEQA. In order to address this concern, the City would require the following condition of approval to ensure consistency with the City's General Plan noise levels standards:

- Prior to building permit issuance for proposed residential lots, the Improvement Plans shall show that solid noise barriers measuring a minimum of six feet in height (relative to backyard elevation) shall be constructed. The noise barriers

may take the form of masonry wall, earthen berm, or a combination of the two, to the satisfaction of the Community Development Department. Other materials may be acceptable but should be reviewed by an acoustical consultant prior to use. The locations of the required noise barriers shall be consistent with alignments shown in Figure 4.8-3 of this EIR.

Existing sensitive receptors would not experience traffic-related or park-related noise levels in excess of the City's applicable noise level standards. Therefore, a ***less-than-significant*** impact would occur related to generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Mitigation Measure(s)
None required.

4.8-3 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Based on the analysis below, the impact is *less than significant*.

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction activities. Project construction would utilize typical construction equipment and would not require significant sources of vibration such as pile driving or blasting. Table 4.8-15 below shows the typical vibration levels produced by construction equipment.

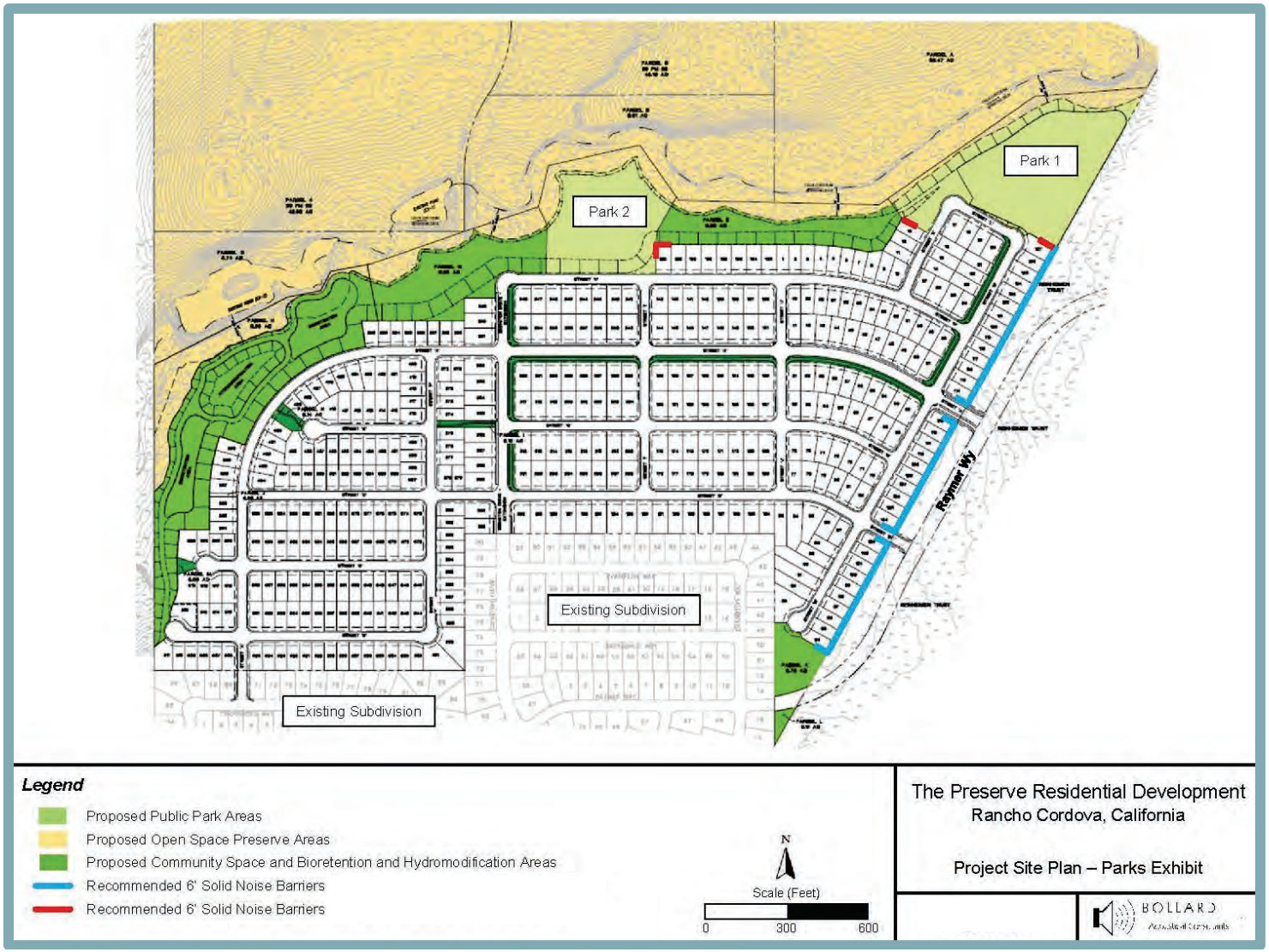
Table 4.8-15
Typical Construction Equipment Vibration Levels

Equipment Type	Maximum PPV (inches/second)	
	Maximum PPV at 25 Feet[1]	Predicted PPV at 30 Feet[1]
Large bulldozer	0.089	0.068
Hoe ram	0.089	0.068
Caisson drilling	0.089	0.068
Loaded trucks	0.076	0.058
Backhoe	0.051	0.039
Excavator	0.051	0.039
Grader	0.051	0.039
Loader	0.051	0.039
Jackhammer	0.035	0.027
Small bulldozer	0.003	0.002

Notes:
[1] Reference vibration level obtained from the Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (2018).

Source: Bollard Acoustical Consultants, Inc. (2020).

Figure 4.8-3
Noise Barrier Locations



Source: Bollard Acoustical Consultants, Inc. (2020).

As shown in the table, vibration levels generated from on-site construction activities at the nearest existing residence located approximately 25 feet away are predicted to be below the Caltrans thresholds for human annoyance (0.1 in/sec PPV) and damage to residential structures (0.2 in/sec PPV) (see Table 4.8-9).

In addition, the majority of construction activities would occur farther than 25 feet from the nearest receptors, and the average construction-generated groundborne vibration levels at the existing residences would be lower than the levels presented in the table above. Furthermore, construction activities would be temporary in nature. Therefore, construction vibrations associated with the project are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors.

Based on the above, the proposed project would not result in the generation of excessive groundborne vibration or groundborne noise levels, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

4.8-4 Generation of a substantial permanent increase in ambient noise levels associated with cumulative development of the proposed project in combination with future buildout of the General Plan. Based on the analysis below, the cumulative impact is *less than significant*.

Future development projects within the City of Rancho Cordova, including the proposed project, would incrementally affect the future cumulative ambient noise environment. As part of the Environmental Noise & Vibration Assessment, cumulative traffic noise impacts due to traffic increases on the local roadway network were evaluated for Cumulative and Cumulative Plus Project Conditions. The resulting noise levels are summarized in Table 4.8-16.

As shown in Table 4.8-16, the addition of project traffic to Cumulative (no project) traffic volumes would result in noise level increases of 0.3 dB or less along the study roadway segments. Thus, project-generated traffic would not result in a substantial increase in traffic noise levels on the local roadway network relative to the FICON significance criteria identified in Table 4.8-8. Therefore, under Cumulative Plus Project Conditions,

the proposed project would not result in a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Accordingly, the cumulative traffic noise impact would be ***less than significant***.

Mitigation Measure(s)

None required.

Table 4.8-16
Traffic Noise Modeling Results
Cumulative vs. Cumulative Plus Project Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB (L_{dn})		
			Cumulative	Cumulative + Project	Change
1	1- Mather Field Rd/ US 50 WB Ramp	North	69.5	69.5	0.0
2		South	70.8	70.8	0.0
3		East	72.0	72.0	0.0
4		West	65.9	65.9	0.0
5	2- Mather Field Rd/ US 50 EB Ramp	North	70.4	70.4	0.0
6		South	71.2	71.2	0.0
7		East	66.0	66.0	0.0
8		West	70.5	70.5	0.0
9	3- Mather Field Rd/ International Dr	North	--	--	--
10		South	62.0	62.0	0.0
11		East	70.6	70.6	0.0
12		West	71.4	71.4	0.0
13	4- Zinfandel Dr/ US 50 WB Ramp	North	69.5	69.5	0.0
14		South	71.1	71.1	0.0
15		East	72.5	72.5	0.0
16		West	64.8	64.8	0.0
17	5- Zinfandel Dr/ US 50 EB Ramp	North	70.8	70.8	0.0
18		South	71.0	71.0	0.0
19		East	69.9	69.9	0.0
20		West	71.9	72.0	0.1
21	6- Zinfandel Dr/ White Rock Rd	North	71.4	71.4	0.0
22		South	69.3	69.3	0.0
23		East	66.7	66.8	0.1
24		West	65.8	65.8	0.0
25	7- Zinfandel Dr/ International Dr	North	69.8	69.8	0.0
26		South	70.9	70.9	0.0
27		East	69.7	69.7	0.0
28		West	70.7	70.7	0.0
29	8- Sunrise Blvd/ Zinfandel Dr	North	72.3	72.3	0.0
30		South	72.4	72.5	0.1
31		East	53.2	53.2	0.0
32		West	60.1	60.1	0.0
33	9- Sunrise Blvd/ US 50 WB Ramp	North	72.4	72.4	0.0
34		South	71.8	71.7	-0.1

(Continued on next page)

Table 4.8-16
Traffic Noise Modeling Results
Cumulative vs. Cumulative Plus Project Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB (L_{dn})		
			Cumulative	Cumulative + Project	Change
35		East	69.5	69.0	-0.5
36		West	69.6	69.6	0.0
37	10- Sunrise Blvd/ US 50 EB Ramp	North	71.7	71.7	0.0
38		South	71.3	71.3	0.0
39		East	65.2	65.2	0.0
40		West	71.0	71.0	0.0
41	11- Sunrise Blvd/ Folsom Blvd	North	70.7	70.7	0.0
42		South	70.3	70.3	0.0
43		East	66.3	66.3	0.0
44		West	66.4	66.4	0.0
45	12- Sunrise Blvd/ White Rock Rd	North	69.5	69.5	0.0
46		South	69.4	69.4	0.0
47		East	68.6	68.7	0.1
48		West	68.2	68.3	0.1
49	13- Zinfandel Dr/ Douglas Rd	North	69.6	69.6	0.0
50		South	65.6	65.6	0.0
51		East	69.3	69.3	0.0
52		West	66.7	66.7	0.0
53	14- Sunrise Blvd/ Douglas Rd	North	70.8	70.8	0.0
54		South	71.8	71.8	0.0
55		East	68.3	68.3	0.0
56		West	69.2	69.2	0.0
57	15- Americanos Blvd/ Douglas Rd	North	61.5	61.8	0.3
58		South	60.2	60.2	0.0
59		East	65.2	65.2	0.0
60		West	65.8	66.0	0.2
61	16- Sunrise Blvd/ Jackson Rd/SR 16	North	72.1	72.1	0.0
62		South	71.0	71.0	0.0
63		East	69.0	69.0	0.0
64		West	69.0	69.0	0.0
65	17- Grant Line Rd/ Jackson Rd/SR 16	North	70.2	70.3	0.1
66		South	68.7	68.7	0.0
67		East	68.8	68.8	0.0
68		West	69.0	69.0	0.0
69	18- Grant Line Rd/ Keifer Blvd	North	70.1	70.1	0.0
70		South	69.7	69.8	0.1
71		East	59.1	59.1	0.0
72		West	58.2	58.3	0.1
73	19- Grant Line Rd/ Douglas Rd	North	71.0	71.2	0.2
74		South	70.7	70.8	0.1
75		East	59.4	59.7	0.3
76		West	65.3	65.3	0.0

(Continued on next page)

Table 4.8-16
Traffic Noise Modeling Results
Cumulative vs. Cumulative Plus Project Conditions

Segment	Intersection	Direction	Traffic Noise Level at 100 feet, dB (L_{dn})		
			Cumulative	Cumulative + Project	Change
77	20- Grant Line Rd/ Raymer Wy	North	72.2	72.4	0.2
78		South	71.4	71.6	0.2
79		East	60.6	60.6	0.0
80		West	61.0	62.3	1.3
81	21- Grant Line Rd/ White Rock Rd	North	73.4	73.4	0.0
82		South	72.2	72.4	0.2
83		East	--	--	--
84		West	68.1	68.3	0.2
85	22- Prairie City Rd/ White Rock Rd	North	69.7	69.7	0.0
56		South	--	--	--
87		East	70.2	70.3	0.1
88		West	71.3	71.4	0.1

Source: Bollard Acoustical Consultants, Inc. (2020).

4.9 Public Services and Utilities

4.9 PUBLIC SERVICES AND UTILITIES

4.9.1 INTRODUCTION

The Public Services and Utilities chapter summarizes the existing setting related to public services and utilities and identifies potential new demands resulting from the proposed project on fire and police protection services, schools, water supply, wastewater systems, solid waste disposal, and gas, electric, and telecommunications infrastructure. Information for this section was drawn primarily from the Water Study[1] and Sewer Study[2] prepared for the proposed project by Ruggeri-Jensen-Azar & Associates, as well as the Unit Count Increase Memorandum prepared by Ruggeri-Jensen-Azar & Associates in January 2021 (see Appendix J).[3] This section also draws on Sacramento County Water Agency's (SCWA) 2015 Urban Water Management Plan (UWMP),[4] the Zone 40 Water Supply Master Plan,[5] and the City of Rancho Cordova General Plan[6] and associated EIR.[7]

4.9.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing fire and police protection services, schools, and other public facilities in the area, as well as existing utilities, including water supply, wastewater conveyance and treatment, solid waste, and gas, electric, and telecommunications infrastructure.

Fire Protection

The project site is currently located within the jurisdiction of the Sacramento Metropolitan Fire District (SMFD). The SMFD provides fire suppression, inspection, plan checking, emergency transportation and medical services, public education, advanced life support, and rescue services in the City of Rancho Cordova. SMFD serves a population of 745,000 in a 359 square mile area in the southern portion of Sacramento County. SMFD operates 42 fire stations with approximately 700 paid personnel on staff. The SMFD includes 39 engine companies, 5 truck companies, 12 medic transportation units, eight historical fire apparatus, five crash/rescue units, and various watercraft response units.[8] Within Rancho Cordova, the SMFD has seven fire stations. Station 68, at 4381 Anatolia Drive, is the closest station to the project site, located 2.8 miles southwest of the project site.

The Emergency Medical Services (EMS) Division oversees the SMFD's emergency related services and personnel, including EMT-Paramedics. The SMFD deploys ten 24-hour Advanced Life Support ambulances. The majority of the fire stations within Rancho Cordova are equipped with an ambulance and paramedic combination.

---

1 Ruggeri-Jensen-Azar & Associates. *Water Study for The Preserve.* September 2018.
2 Ruggeri-Jensen-Azar & Associates. *Sewer Study for The Preserve.* June 2020.
3 Ruggeri-Jensen-Azar & Associates. *The Preserve – Unit Count Increase on Sewer and Water Studies*. January 2021.
4 Sacramento County Water Agency. *Draft 2015 Urban Water Management Plan*. May 2016.
5 Sacramento County Water Agency. *Zone 40 Water Supply Master Plan.* February 2005.
6 City of Ranch Cordova. *Rancho Cordova General Plan*. June 26, 2006.
7 City of Ranch Cordova. *Rancho Cordova General Plan Environmental Impact Report.* June 2006.
8 *Ibid.*

The Insurance Services Office (ISO) rating is the recognized classification for a fire department or district's ability to defend against major fires. According to the ISO, newly developing urban areas should have a fire station opened within 2.5 miles from all residential development when build-out exceeds 20 percent of the City. A rating of ten generally indicates inadequate protection, while an ISO rating of one indicates high firefighting capability. The SMFD has an ISO rating of three for areas containing water flow and established hydrants, and class eight for areas lacking water sources and hydrants. The SMFD has established a goal for a response time of five minutes or less for 80 percent of the time in the urbanized portions of the City. Currently, the SMFD has a response time of five minutes for emergency calls, where staffing levels are adequate.[9]

The SMFD is funded through property taxes and grant funding. The funding and expenditures for the SMFD are facilitated through the Capital Improvement Program. In addition, development impact fees account for a portion of funding for the SMFD. The Capital Fire Facilities Fee was established through Assembly Bill 1600, which provides the authority for SMFD to fund the full cost of providing new fire services and facilities through fees levied on new development within the SMFD service area.

Police Protection

The City of Rancho Cordova Police Department (RCPD) is contracted through the Sacramento County Sheriff's Department (SCSD) Patrol Services. The SCSD is staffed with 2,332 people, consisting of 1,789 officers and 543 nonsworn members. The SCSD also has a reserve force of 168 officers and approximately 621 community volunteers.[10]

The RCPD is comprised of 55 sworn officers and seven non-sworn staff.[11] The Rancho Cordova Police Station is located at 2897 Kilgore Road in the City of Rancho Cordova, approximately 6.7 miles from the project site by way of White Rock Road. The City's goal for staffing standards is one officer per 1,000 residents and one support staff member for every three officers. The RCPD's goal is also to maintain an average response time for Priority One calls for service of five minutes or less. A Priority One call is defined as a call regarding violent crime or requiring immediate life-saving response.

The RCPD is organized into three components:

- *Administration Services Bureau*: The Administration Services Bureau includes the budget coordinator, equipment manager, and volunteer coordinator.
- *Investigations and Community Services Bureau*: The Investigations and Community Services Bureau includes the detective unit, problem-oriented police unit, traffic enforcement, and crime prevention center.
- *Patrol Operations Bureau*: The Patrol Operations Bureau provides first-line emergency response to crimes in progress, accidents, and tactical situations.

The SCSD and the RCPD are funded through Sacramento County tax revenues and special Federal and local grants. The SCSD and the City of Rancho Cordova have agreed that funding for the RCPD will occur using revenues from the City's General Fund, which is the primary source of revenue for law enforcement services.

---

9 AECOM, Inc. *SunCreek Specific Plan Project DEIR/DEIS*. October 2012.
10 City of Ranch Cordova. *Rancho Cordova General Plan Environmental Impact Report.* June 2006.
11 Ranch Cordova Police Department. *About Us*. Available at: https://www.ranchocordovapd.com/about-us. Accessed September 2020.

Schools

The project site is located within the boundaries of the Folsom Cordova Unified School District (FCUSD), which encompasses approximately 98 square miles in eastern Sacramento County, including the City of Folsom and the majority of the City of Rancho Cordova. The FCUSD is comprised of two preschools, 23 elementary schools, nine middle schools, and eight high schools. The closest schools to the project site are Navigator Elementary School, located 4.5 miles west of the project site, W.E. Mitchell Middle School, located 4.7 miles northwest of the site, and Cordova High School, located six miles west of the site. Table 4.9-1 below presents the existing school enrollment and facility capacity of the schools in the project vicinity. The City of Rancho Cordova falls within the School Facilities Improvement District 1 (SFID 1).

Table 4.9-1
Project Vicinity Schools Enrollment and Optimal Loading

School Facility	2019-2020 Enrollment[1]	District Optimal Loading Capacity[2]
Navigator Elementary School	374	558
W.E. Mitchell Middle School	885	843
Cordova High School	1,851	1,951

Sources:
[1] California Department of Education. District Profile: Folsom-Cordova Unified. Available at: https://www.cde.ca.gov/sdprofile/details.aspx?cds=34673300000000. Accessed March 2021.
[2] Folsom Cordova Unified School District. Facility Master Plan. November 2013.

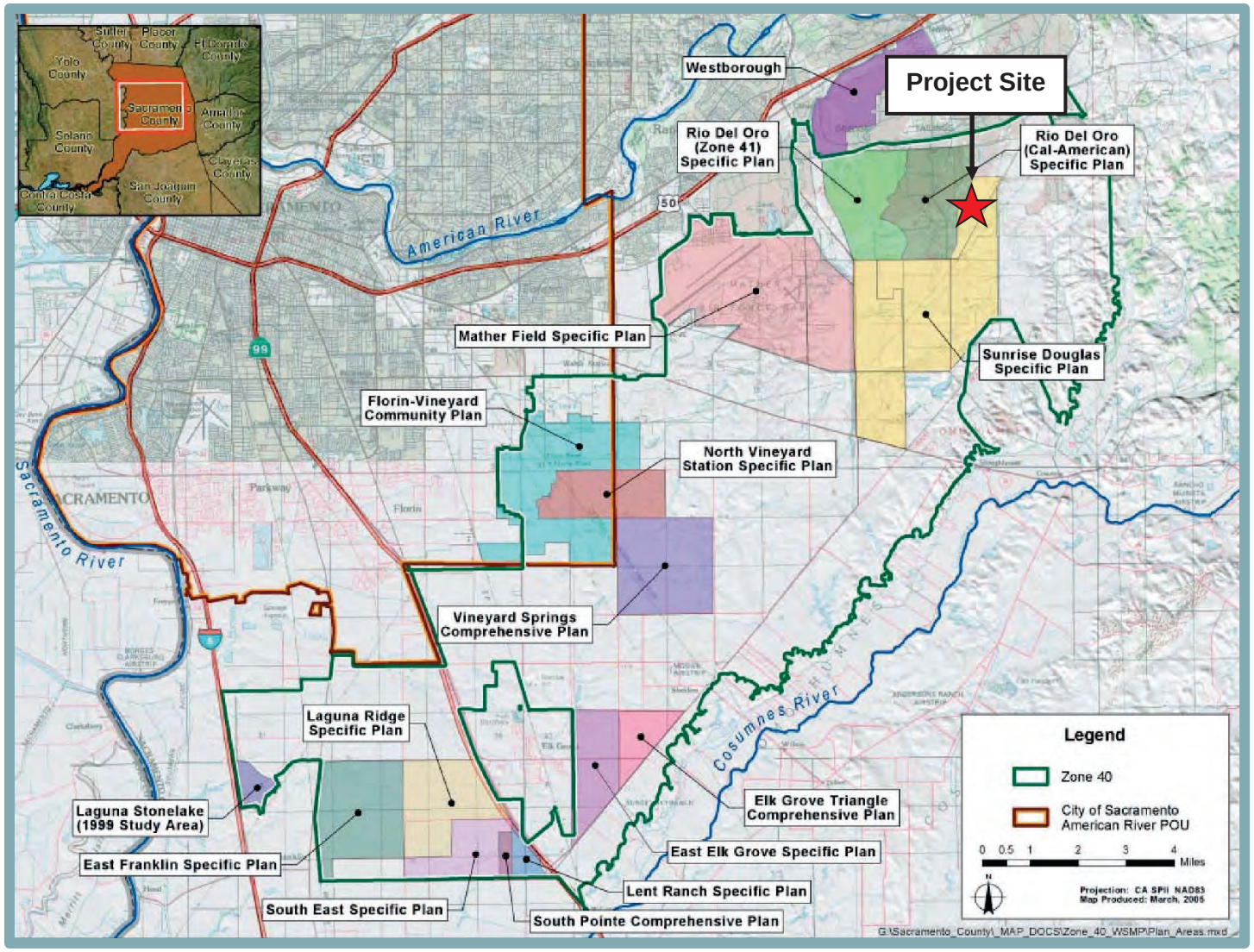
Water Supply

The City of Rancho Cordova is not a water provider, but contracts with four water purveyors to provide water service to residences within the City. The City uses two private water companies, Golden State Water and California American Water, and two public agencies, SCWA and City of Folsom Water District. The project site would be served by the SCWA through the Zone 40 conjunctive-use water supply system (see Figure 4.9-1).

Zone 40 was formed as a result of SCWA Resolution No. 663, which established exact zone boundaries and set goals for future water service projects. SCWA has engaged in a long-term water supply planning process through participation in the regional Water Forum planning process and the adoption of the 2015 UWMP and the Zone 40 Water Supply Master Plan (WSMP).

The Zone 40 WSMP was prepared by the SCWA in 2005 to ensure provision of a reliable and safe water supply to the region's economic health and planned development through the year 2030, and to preserve the fishery, wildlife, recreation, and aesthetic values of the lower American River. The Zone 40 WSMP states that water supply sources within the City include groundwater, surface water, and purchased recycled water. The use of each is discussed in further detail below.

Figure 4.9-1
Zone 40 Water Distribution Area



Groundwater

Three groundwater sub-basins exist under Sacramento County; Zone 40 lies entirely within the Central Sacramento County Groundwater Basin (Central Basin) (see Figure 4.9-2). The Central Basin is considered a shallow aquifer zone, and extends approximately 200 to 300 feet below the ground surface. Recharge to the aquifer system occurs along active river and stream channels, particularly along the American, Cosumnes, and Sacramento River channels. Additional recharge occurs from the percolation of precipitation and applied surface water. Groundwater from the Central Basin is generally high quality, and is treated for the removal of iron, manganese, arsenic, and radon.

The groundwater in the Central Basin is managed by the Sacramento Central Groundwater Authority (SCGA), which was formed in 2006 through an agreement signed by the cities of Elk Grove, Folsom, Rancho Cordova, and Sacramento. The SCGA Groundwater Management Plan, which was adopted in 2006, establishes a framework for maintaining sustainable groundwater resources in the Central Basin. This framework includes specific goals, objectives, and an action plan to manage the basin.

The SCGA Groundwater Management Plan also prescribes a well protection program to protect existing private domestic well and agricultural well owners from declining groundwater levels resulting from increased groundwater pumping due to new development in the basin.

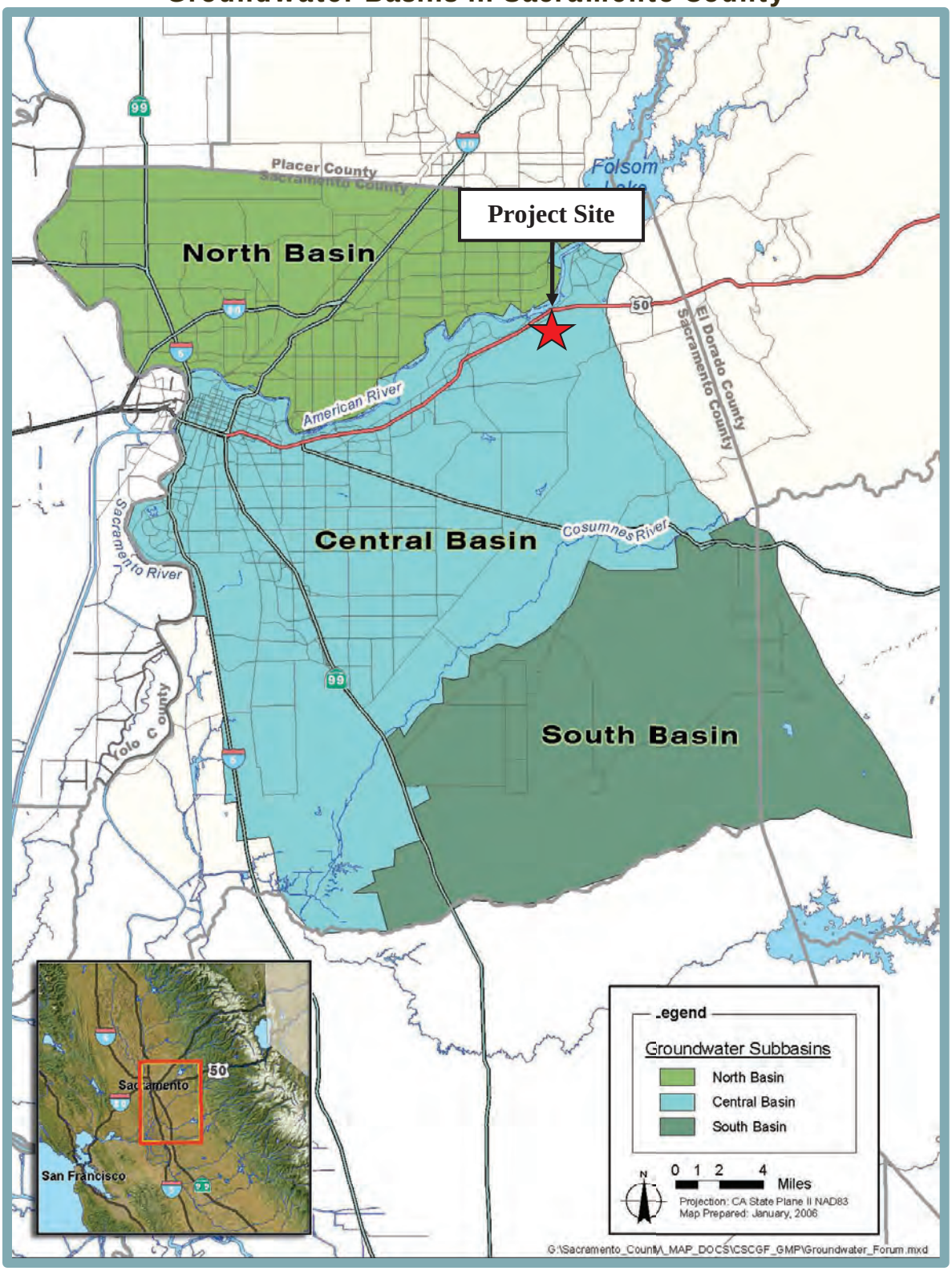
Groundwater is supplied by SCWA's system of groundwater wells and remediated groundwater that is extracted by others. Groundwater pumping was developed to provide sufficient capacity to meet projected maximum day demands and meet conjunctive use objectives. SCWA is obligated to provide groundwater to Sacramento Municipal Utility District (SMUD) in dry and critically dry years. Groundwater is considered to be the last priority in meeting water demands after surface water entitlements and surface water treatment capacity are used. Variability in groundwater use is a result of the conjunctive use program, dry year deliveries to SMUD, and the variability in the availability of surface water supplies. Based on the average of the five years presented within the SCWA's 2015 UWMP, the SCWA pumps approximately 29,230 acre-feet per year (AFY) of groundwater. In 2015, groundwater supplies accounted for approximately 73 percent of total SCWA water supplies.

SCWA also has a remediated groundwater supply of approximately 8,900 AFY per the 2010 agreement, "Agreement between Sacramento County, SCWA, and Aerojet-General Corporation with Respect to Transfer of GET Water." The remediated groundwater is pumped from the northern portion of the South American Subbasin and discharged into the American River from Aerojet's Groundwater Extraction and Treatment (GET) facilities, located in the Rancho Cordova area.

Surface Water

Surface water is defined by the California Department of Water Resources (DWR) as self-supplied water that is drawn from streams, lakes, and reservoirs. SCWA has an appropriative water supply consisting of self-supplied surface water that is drawn from the American and Sacramento rivers. In February 2008, the State Water Resources Control Board (SWRCB) approved SCWA's appropriate right permit application to divert water from the American and Sacramento rivers. The amount of appropriated water for use could range up to 71,000 AFY in wet years, primarily during the winter months. Because SCWA's demands are low in the winter months, the potential exists for not all of the supply to be utilized.

Figure 4.9-2
Groundwater Basins in Sacramento County



Source: Sacramento County Water Agency, 2015 Urban Water Management Plan [pg 64], May 2016.

Surface water is diverted at the Freeport diversion on the Sacramento River, and at or near the mouth of the American River. Water quality at these sources is considered good, and the water is treated with conventional filtration processes. SCWA relies on two sources of purchased surface water, as described below.

Central Valley Project

A majority of SCWA's water supplies are provided to the City of Rancho Cordova by the Central Valley Project (CVP), in accordance with an agreement between SCWA and SMUD. SCWA has entered into two three-party agreements with the City of Sacramento and SMUD for the assignment to SCWA of a total of 30,000 AFY of water from SMUD's existing contract.[12] In 1999, SCWA entered into a contract with the U.S. Bureau of Reclamation for 22,000 AFY of CVP supplies from the American River, pursuant to Public Law 101-514. The contract, often referred to as "Fazio Water," requires that 7,000 AFY be subcontracted to the City of Folsom for diversion from Folsom Lake, with 15,000 FY available for SCWA through the Freeport diversion or Franklin intertie. Most of the CVP water is diverted at the Freeport diversion on the Sacramento River and treated at the Vineyard Surface Water Treatment Plant (SWTP).

SCWA's total CVP supply is subject to reductions in dry years. The water supply allocations are defined by the Bureau of Reclamation on a year-to-year basis and are expressed as a percentage of either the contract amount or amount of average use.

City of Sacramento's American River Place of Use

Part of Zone 40 falls within Sacramento's American River Place of Use (POU), which refers to an area where the City of Sacramento has water rights. The amount of water available to serve the POU within Zone 40 is approximately 9,300 AFY. However, when American River flows are less than applicable requirements (Hodge Flow Criteria), POU water is not available to SCWA. Given the uncertainty of the availability of POU water during dry years, the SCWA 2015 UWMP allocates zero percent water supply from the POU during dry years.

Recycled Water

Recycled water use within the City is a component of tertiary treated wastewater for non-potable use. The uses are primarily landscape irrigation at parks, schools, and rights-of-way. Recycled water is purchased by SCWA from the Sacramento Regional County Sanitation District (SRCSD). Recycled water is not currently used within the project area.

Water Use

The UWMP has identified regional water demand in normal, single dry, and multiple dry years in five-year increments. The projections are based on buildout of the Zone 40 area per the City's General Plan land use designations, with full buildout of Zone 40 anticipated to occur after the year 2040. The projected retail water demands for the project area are based on the projections included in the Zone 40 Water System Infrastructure Plan Update (WSIP).[13] It should be noted that, per the anticipated land use at buildout, the project site would be agriculture on the western half and non-irrigated on the eastern half. As such, water demand from buildout of the proposed project would not have been accounted for in the WSIP.

[12] Sacramento County Water Agency. *Draft 2015 Urban Water Management Plan*. May 2016.
[13] Sacramento County Water Agency. *Zone 40 Water System Infrastructure Plan Update*. September 2016.

Table 4.9-2 and Table 4.9-3 show the projected water supply and demand totals during a normal year and during a single dry year, respectively. Table 4.9-4 shows the projected supply and demand totals under multiple dry year conditions for the first, second, and third years. The multiple dry year scenario mimics the water supply conditions of 2013 to 2015 when CVP allocations were 100 percent, 75 percent, and 25 percent of the average use of supplies during the previous three years. The demands presented in this table are the same as the normal year demands, but the second- and third-year demands might be lower if demand reduction mandates are imposed by the State. Determining the amount of CVP supplies available in the dry years requires first a projection of the use of the CVP supply in normal years. The CVP dry year allocation is determined based on a percentage of the previous three years of use. During dry years SCWA would seek to supplement its reduced CVP supplies with the use of other surface water supplies

Table 4.9-2
Supply and Demand Assessment: Normal Year (AFY)

	2020	2025	2030	2035	2040
Supply totals	82,900	82,900	87,900	97,900	97,900
Demand totals	48,121	55,490	63,288	71,143	79,278
Difference	*34,779*	*27,410*	*24,612*	*26,757*	*18,622*

Source: Sacramento County Water Agency, 2015 Urban Water Management Plan, May 2016.

Table 4.9-3
Supply and Demand Assessment: Single Dry Year (AFY)

	2020	2025	2030	2035	2040
Supply totals	70,200	70,500	74,600	83,600	83,800
Demand totals	48,121	55,490	63,288	71,143	79,278
Difference	*22,079*	*15,010*	*11,312*	*12,457*	*4,522*

Source: Sacramento County Water Agency, 2015 Urban Water Management Plan, May 2016.

Table 4.9-4
Supply and Demand Assessment: Multiple Dry Years (AFY)

		2020	2025	2030	2035	2040
1st Year	Supply Totals	77,900	77,900	81,900	90,900	90,900
	Demand Totals	48,121	55,490	63,288	71,143	79,278
	Difference	*29,779*	*22,410*	*18,612*	*19,757*	*11,622*
2nd Year	Supply Totals	77,900	77,900	81,900	90,900	90,900
	Demand Totals	48,121	55,490	63,288	71,143	79,278
	Difference	*29,779*	*22,410*	*18,612*	*17,757*	*11,622*
3rd Year	Supply Totals	70,200	70,500	74,600	83,600	83,800
	Demand Totals	48,121	55,490	63,288	71,143	79,278
	Difference	*22,079*	*15,010*	*11,312*	*12,457*	*4,522*

Note: Per the UWMP, based on the selected base years, the first year would be normal year supplies, the second year is based on a 75 percent allocation of CVP water, and the third year is the same as the single dry year with a 25 percent CVP allocation.

Source: Sacramento County Water Agency, 2015 Urban Water Management Plan, May 2016.

Wastewater

Sanitary sewer service for the proposed project would be provided by the Sacramento Area Sewer District (SASD) and SRCSD; SASD operates and maintains the main line pipes for wastewater conveyance and collection from the source to the regional interceptors, and SRCSD is

responsible for collection by interceptors and for wastewater treatment in Sacramento County. The SRCSD owns, operates, and is responsible for the collection, trunk, and interceptor sewer systems throughout Sacramento County, as well as the Sacramento Regional Wastewater Treatment Plant (SRWTP) located near Elk Grove. The City of Rancho Cordova Planning Area falls within County Sanitation District 1 (CSD-1).

Within the SASD's sewer system, sewage from customers' homes and businesses enter the system through sewage collecting pipes 10-inches or smaller in diameter. Once in the main line, sewage flows into a system of larger pipes called trunk lines, which are 12-inches or larger in diameter. Trunk lines function as conveyance facilities to transport collected wastewater flows to the SRCSD interceptor system, which carries wastewater directly to the SRWTP. As of 2010, the SRWTP receives and treats an average of 141 million gallons per day (mgd) of wastewater, and, under NPDES NO. CA0077682, is permitted to treat 181 mgd average dry weather flow.[14]

The SRCSD evaluated the environmental impacts of constructing turn and interceptor sewers that would serve the Sacramento region at a program level in the EIR for the Sacramento Regional County Sanitation District Interceptor Master Plan.[15] In addition, the SRCSD developed the Sacramento Regional Wastewater Treatment Plant 2020 Master Plan in order to provide a phased program of recommended wastewater treatment facilities and management programs to accommodate planned growth and to meet existing and anticipated regulatory requirements through the year 2020. The 2020 Master Plan addresses both public and health and environmental protection issues while ensuring reliable service at affordable rates for SRCSD customers. The key goals of the 2020 Master Plan are to provide sufficient capacity to meet growth projections and an orderly expansion of SRWTP facilities, to comply with applicable water quality standards, and to provide for the most cost-effective facilities and programs from a watershed perspective.

Solid Waste

The City of Rancho Cordova's residential solid waste and recycling services are provided by Republic Services, Inc. Sacramento County owns and operates the Kiefer Landfill, which is the primary solid waste disposal facility that would be used to service the project site. The Kiefer Landfill is located at 12701 Keifer Boulevard, approximately four miles south of the project site. Kiefer Landfill is classified as a Class III municipal solid waste landfill facility and is permitted to accept general residential, commercial, and industrial refuse for disposal, including municipal solid waste, construction and demolition debris, green materials, agricultural debris, and other nonhazardous designated debris.

The landfill is permitted to accept a maximum of 10,815 tons per day of solid waste, with a maximum capacity of 117,400,000 cubic yards. As of 2020, the Kiefer Landfill has a remaining capacity of 112,900,000 cubic yards, and is therefore operating below permitted capacity. The estimated closure date of the Kiefer Landfill is anticipated to be 2064.[16] Per the CalRecycle Jurisdiction Diversion/Disposal Rate Summary for Rancho Cordova, the most recent (2018) annual per capita disposal rate is 4.2 pounds per day (PPD) per resident.

---

14 De Novo Planning Group. *Environmental Impact Report for The Ranch Project (SCH: 2018072011)* [pg. 3.14-3]. August 2019.

15 Sacramento County. *Environmental Impact Report for the Sacramento Regional County Sanitation District Interceptor Master Plan 2002 (SCH: 1995012061).* November 2002.

16 California Department of Resources Recycling and Recovery (CalRecycle). SWIS Facility Detail: Sacramento County Landfill (Kiefer) (34-AA-0001). Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2070?siteID=2507. Accessed October 2020.

Electricity and Natural Gas

The City of Rancho Cordova receives electricity from SMUD and natural gas services from Pacific Gas & Electric (PG&E). SMUD has provided electricity throughout Sacramento County since 1946, and is responsible for the combination of resources used to generate electricity for its customers. For example, SMUD is in the process of implementing the Statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy within its energy portfolio. PG&E owns and operates approximately 42,141 miles of natural gas distribution pipelines throughout California.[17] PG&E would provide natural gas to the project site through underground transmission lines. Existing electricity and natural gas infrastructure is undergrounded to the south of the project site.

Telecommunications

Residents in the City of Rancho Cordova subscribe to a mix of wireline providers and resellers including AT&T of California, Consolidated Communications, Frontier, Xfinity, T-Mobile, and more. Cable internet fibers are generally co-located and installed concurrently with other utility infrastructure. Within new development projects, such infrastructure is primarily installed underground. Telephone facilities in the City's Planning Area include both aerial and underground fiber and copper transmission lines. Most of the underground and aerial telephone transmission lines are generally co-located with other utilities on poles or underground trenches and are constructed in public and roadway rights-of-way.

4.9.3 REGULATORY CONTEXT

The following discussion contains a summary review of regulatory controls pertaining to public services and utilities, including federal, State, and local laws and ordinances.

Federal Regulations

The following are the federal environmental laws and policies relevant to public services and utilities.

Safe Drinking Water Act (SDWA)

The federal SDWA, which was enacted in 1974, gives the United States Environmental Protection Agency (EPA) the authority to set standards for contaminants in drinking water supplies. The EPA was required to establish primary regulations for the control of contaminants that affected public health and secondary regulations for compounds that affect the taste, odor, and aesthetics of drinking water. Accordingly, the EPA set a maximum contaminant level or treatment technique for each of the 83 contaminants in drinking water listed in the SDWA. Under the provisions of SDWA, the California Department of Health Services (DHS) has the primary enforcement responsibility. Title 22 of the California Administrative Code establishes DHS authority, and stipulates State drinking water quality and monitoring standards.

State Regulations

The following are the State environmental laws and policies relevant to public services and utilities.

[17] Pacific Gas and Electric. *Company Profile*. Available at: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed October 2020.

California Fire Code

The California Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, include regulations for building standards (as also set forth in the California Building Standards Code [CBSC]), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Senate Bill 610

The California Water Code requires coordination between land use lead agencies and public water purveyors. The purpose of this coordination is to ensure that prudent water supply planning has been conducted and that planned water supplies are adequate to meet both existing demands and the demands of planned development.

Water Code Sections 10910 – 10915 (inclusive), sometimes referred to as Senate Bill (SB) 610, require land use lead agencies: 1) to identify the responsible public water purveyor for a proposed development project, and 2) to request from the responsible purveyor, a "Water Supply Assessment" (WSA). The purposes of the WSA are (a) to describe the sufficiency of the purveyors' water supplies to satisfy the water demands of the proposed development project, while still meeting the current and projected water demands of customers, and, (b) in the absence of a currently sufficient supply to describe the purveyor's plans for acquiring additional water. Water Code Sections 10910 through 10915 delineate the specific information that must be included in the WSA.

As stated in CEQA Guidelines Section 15155, which reflects SB 610 requirements, any development with water demand exceeding the equivalent demand associated with 500 dwelling units is considered a "water-demand project" and is required to prepare a WSA. The proposed project would include development of 440 single-family lots and, thus, preparation of a WSA is not required for the proposed project.

Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (Assembly Bill [AB] 1881) enacts many, but not all of the recommendations reported to the Governor and Legislature in December 2005 by the California Urban Water Conservation Council Landscape Task Force. AB 1881 requires DWR, not later than January 1, 2009, by regulation, to update the model ordinance in accordance with specified requirements, reflecting the provisions of AB 2717. AB 1881 requires local agencies, not later than January 1, 2010, to adopt the updated model ordinance or equivalent or it will be automatically adopted by statute. The bill also requires the Energy Commission, in consultation with the department, to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission

devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), adopted in 2014, requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally-based management plans. The SGMA provides substantial time (20 years) for GSAs to implement plans and achieve long-term groundwater sustainability. The DWR and the SWRCB are the two lead State agencies implementing the SGMA. The responsibilities required under the SGMA include the following:

1) Developing regulations to revise groundwater basin boundaries;
2) Adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements;
3) Identifying basins subject to critical conditions of overdraft;
4) Identifying water available for groundwater replenishment; and
5) Publishing best management practices for the sustainable management of groundwater.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation (i.e., recycling) and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's AB 939 plan will be integrated within the respective county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. Cities and counties that do not meet this mandate are subject to $10,000-per-day fines.

Senate Bill 1016

In 2007, SB 1016 amended portions of AB 939, which allows the California Integrated Waste Management Board (CIWMB) to use per capita disposal as an indicator in evaluating compliance with the requirements of AB 939. Jurisdictions track and report their per capita disposal rates to CalRecycle.

Solid Waste Reuse and Recycling Access Act

The Solid Waste Reuse and Recycling Access Act (AB 1327) requires jurisdictions to adopt ordinances requiring development projects to provide adequate storage area for collection and removal of recyclable materials.

Local Regulations and Policies

The following are applicable local regulations relevant to public services and utilities.

City of Rancho Cordova General Plan

Goals and policies from the City's General Plan related to public services and utilities are presented below.

Goal NR.8: Promote waste reduction, reuse, recycling, and composting efforts.

Policy NR.8.5: Meet state mandates for solid waste reduction and recycling. Increase recycling efforts beyond those required by state law through supporting businesses that buy and sell re-used materials, such as materials exchange centers.

Policy NR.8.7: Maintain contact with Sacramento County and Allied Waste (or its successor) regarding the capacity projections of Kiefer Landfill and Lockwood Landfill to ensure an adequate capacity in their disposal facilities for the long-term disposal needs of Rancho Cordova.

Goal NR.5: Protect the quantity and quality of the City's water resources.

Policy NR.5.1: Promote water conservation within existing and future urban uses.

Policy NR.5.3: Protect surface and ground water from major sources of pollution, including hazardous materials contamination and urban runoff.

Policy NR.5.4: Prevent contamination of the groundwater table and surface water, and remedy existing contamination to the extent practicable.

Policy NR.5.5: Minimize erosion to stream channels resulting from new development in urban areas consistent with State law.

Policy NR.5.6: Incorporate Storm Water, Urban Runoff, and Wetland Mosquito Management Guidelines and Best Management Practices into the design of water retention structures, drainage ditches, swales, and the construction of mitigated wetlands in order to reduce the potential for mosquito-borne disease transmission.

Policy NR.5.8: The City shall require groundwater impact evaluations be conducted for the Grant Line West, Westborough, Aerojet, Glenborough, Mather and Jackson Planning Areas to determine whether urbanization of these areas would adversely impact groundwater remediation activities associated with Mather and Aerojet prior to the approval of largescale development. Should an adverse impact be determined, a mitigation program shall be developed in consultation with applicable local, state, and federal agencies to ensure remediation activities are not impacted. This may include the provision of land areas for groundwater remediation facilities, installation/extension of necessary infrastructure, or other appropriate measures.

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

Policy ISF.2.1: Ensure the development of public infrastructure that meets the long-term needs of residents and ensure infrastructure is available at the time such facilities are needed.

Policy ISF.2.3: Ensure that adequate funding is available for all infrastructure and public facilities, and make certain that the cost of improvements is equitably distributed.

Policy ISF.2.4: Ensure the development of public infrastructure that meets the long-term needs of residents and ensure infrastructure is available at the time such facilities are needed.

Policy ISF.2.6: Ensure that sewage conveyance and treatment capacity are available in time to meet the demand created by new development, or are guaranteed to be built by bonds or other sureties.

Goal S.7: Design neighborhoods and buildings in a manner that prevents crime and provides security and safety for people and property.

Policy S.7.1: Use Crime Prevention Through Environmental Design (CPTED) principles in the design of projects and buildings.

Goal S.9: Reduce the probability of fire damage to all of the City's structures.

Policy S.9.2: Provide infill development with adequate off-site improvements to meet onsite fire flow requirements.

Urban Water Management Plan

In 2016, the SCWA prepared the 2015 UWMP as required by the Urban Water Management Planning Act of 1983. The UWMP serves as a long-term planning document for sustainable water supply, and includes a description of water sources, historical and projected water use, and a comparison of water supply and demand during normal and dry years. The UWMP was prepared in compliance with California Water Code, Division 6, Part 2.6, Sections 10610 through 10656, which requires every urban water supplier that provides water to over 3,000 connections to adopt and submit a management plan every five years to the DWR. The UWMP also discusses the conservation and efficient use of water in the service area, and the development and implementation of plans to assure reliable water service in the future. The UWMP contains projections for future water use, discusses the reliability of the SCWA's water supply, describes the SCWA's water treatment system, and contains a water shortage contingency plan. In addition, the UWMP contains best management practices for efficient water use.

City of Rancho Cordova Municipal Code

The City's Municipal Code standards related to public services and utilities that are applicable to the proposed project are presented below.

Title 6: Health and Sanitation

Chapter 6.32, Sanitary Sewage Systems, requires that a drainage system connect to a public sanitary sewer in every building where persons reside, congregate, or are employed. A permit is

required in order to construct, alter, or relocate a sewage disposal system in the City. Section 6.32.170 mandates that,

> "The city council shall establish a special revolving fund to be designated as the sewage connection fund. Payments shall be made out of the fund upon the demand of the director of public works to defray the costs and expenses which may be incurred by the city in doing or causing to be done the necessary work for sewage connections."

Title 15: Water and Sewers

Chapter 15.04, Sewer Use, sets standards to control the quantity and quality of wastewater that enters the public system and assure efficient operation and maintenance of sewerage facilities. The chapter also includes regulations for what discharge types are allowable in sanitary sewers. Public sewer cannot be used until a connection permit is acquired.

Title 16: Buildings and Construction

Chapter 16.83, Development Impact Fees to Finance Cost of Public Facilities, requires that development fees be charges to fund the cost of certain public facilities, such as those related to roadways, transit, parks, and libraries.

Chapter 16.92, Construction and Demolition Debris, declares the following:

> "1. The California Integrated Waste Management Act of 1989 (AB 939) requires each local jurisdiction in the state to divert a minimum of 50 percent of discarded materials away from disposal in landfills.
> 2. CALGreen requires, as part of the California Green Building Standards Code, Title 24, California Code of Regulations, that 50 percent of nonhazardous construction and demolition (C&D) debris be diverted. The diversion requirement imposed by CALGreen is subject to change.
> 3. AB 939 requires jurisdictions to submit an annual report summarizing their progress in diverting solid waste from disposal.
> 4. Senate Bill 1374 requires the annual report to include a summary of progress made in the diversion of C&D debris.
> 5. C&D debris accounts for a significant portion of the waste stream generated in the city. These materials have significant potential for waste reduction and recycling.
> 6. The reuse and recycling of C&D debris will reduce the amount of waste transported for disposal in landfills and return these materials into the economic mainstream, thereby conserving natural resources and stimulating markets for recycled and salvage materials."

In compliance with Chapter 16.92, projects must establish recycling requirements for construction debris in an effort to reduce landfill waste. Developers are required to complete and submit a Waste Management Plan and pay an applicant fee to the City's Building and Safety Division.

Title 17: Fire Prevention

Chapter 17.04 of the Municipal Code establishes and adopts the Fire Code, which is included in the 2019 CBSC, Title 24, California Code of Regulations, Part 9 (California Fire Code), incorporating the International Fire Code, 2015 Edition, with errata. The Chapter mandates that, "all construction, alteration, moving, demolition, repair, and use of any building or structure within the City shall be made in conformance with the state code and any rules and regulations promulgated pursuant thereto, including the IFC and the appendix." The SMFD has authority to enforce the Code and issue citations for any violations.

Title 22: Land Development

Chapter 22.40, Park and Recreation Dedication and Fees, mandates that a certain area of parkland shall be dedicated per number of dwelling units. The area of dedicated parkland is equal the number of dwelling units multiplied by a conversion factor that varies per dwelling type. The multiplication factor for single-family dwelling units, such as those proposed by the project, is equal to 0.01475.

If a project does not meet the parkland ratio, the developer shall be required to pay an in-lieu fee equal to the amount of land (acres) required for dedication multiplied by the fair market value (dollars/acre) of the subject property.

4.9.4 IMPACTS AND MITIGATION MEASURES

The section below describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential project-specific impacts related to public services and utilities. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact related to public services and utilities is considered significant if the proposed project would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire protection;
    - Police protection;
    - Schools;
    - Parks; or
    - Other public facilities.
- Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Impacts related to storm drainage facilities are addressed in Chapter 4.6, Hydrology and Water Quality, of this EIR.

Issues Dismissed in the Initial Study

The Initial Study prepared for the proposed project (see Appendix A) determined that development of the proposed project would result in no impact or a less-than-significant impact related to resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for the following public services:

- Parks; and
- Other public facilities.

For the reasons cited in the Initial Study, such impacts are not analyzed further in this EIR.

Method of Analysis

The following sections describe the methodologies employed in the Water Study and Sewer Study prepared for the proposed project by Ruggeri-Jensen-Azar & Associates, as well as the methods used to analyze impacts related to electricity, natural gas, telecommunications facilities, and solid waste. Impacts to public services (i.e., fire protection, police protection, and schools) were based primarily on the City's General Plan EIR.

Water Supplies

The Water Study prepared for the proposed project evaluated the availability of existing water supply conveyance infrastructure in the project area to serve the original 434-unit count proposed by the project. In addition, the Water Study prepared modeling to demonstrate what sized system would appropriately accommodate the resulting flows and pressures that are anticipated for the proposed project. The water system design criteria used for the model were determined using the Zone 40 Water System Infrastructure Plan Update (WSIP), which considers of the following components: water demand, peaking factors, water system materials and sizes, and water system performance criteria.

The Zone 40 WSIP determined that the average daily water demand per single-family residence in Zone 40 is 490 gallons per day (gpd)/connection. Based on the WSIP demand factors, the average daily water demand for the proposed project was estimated to by approximately 212,688 gpd (490 gpd/connection X 434 connections = 212,688 gpd), or 148 gallons per minute (gpm). Such water demand values were split and applied throughout the nodes in the model as the Average Day Demand (ADD). Based on the information presented within the WSIP, a Maximum Day Demand (MDD) peaking factor of 2.0 ADD and Peak Hour Demand peaking factor of 2.0 MDD was applied to the model.

The *Sacramento County Water Agency's 2018 Improvement Standards* specify that water distribution pipes be made of cement-lined pipe, polyvinyl chloride pipe, or ductile iron pipe. As such, the aforementioned materials were used for the modeling conducted in the Water Study. The minimum size for all distribution pipes was assumed to be eight inches in diameter.

The full water distribution system, shown in Figure 4.9-3, was modeled using Bentley WaterCAD V8i software, and the modeled outputs were compared to the County's water distribution performance goals.

Figure 4.9-3
Proposed Water Distribution System Layout

Existing pipelines that were modeled to be connected to the new system included the distribution mains in Edington Way, Thornberg Way, and Raymer Way. Water pressures were modeled at ground level, and building heights were not considered.

Wastewater

The Sewer Study prepared for the proposed project evaluated the wastewater generation associated with the project, as well as the capacity of downstream wastewater conveyance infrastructure.

The proposed project is located within the BR East Rancho Area 1 Trunk Shed area, and would receive wastewater treatment services from the Aerojet Interceptor Section 2S. The 185.3 acres of open space were not incorporated in the study because the land is not anticipated to be developed.

The project would include two points of connection to the existing wastewater system, and offsite upstream areas that would contribute to the flows produced by the proposed project do not exist.

As part of the Sewer Study, a detailed collection system was established, the major sewer sheds were defined, and the major sewer sheds were split into sub-sheds to define that areas that would contribute flows to specific nodes in the collection system. To estimate sewage flows, the area of land to be developed was multiplied by the average number of Equivalent Single-Family Dwelling Units (ESDs) per acre. The predicted volume of wastewater flows per land use area is used to determine the total number of ESDs entering each pipe system.

Sewage flows used in the model were estimated per the 2019 Sacramento Area Sewer District Standards and Specifications methodology. The model used a minimum plan density of RD-6 to assume approval of the General Plan Amendment (GPA)/Rezone. The assumptions applied in the model are presented in Table 4.9-5.

Table 4.9-5
Sewer Study Design Criteria

Category	Conditions
Development Density	Planned Development Density
Flow Generation	310 gpd/ESD
Peaking Factor	$3.5 - 1.8Q_a^{0.05}$
Velocity Criteria	Minimum 2 fps at Peak Wet Weather Flow
Hydraulic Grade Line	Maximum HGL at crown of pipe, Peak Wet Weather Flow
Friction Factor	N = 0.013
Minimum Depth	6.3' at periphery of plan 6.3' minimum depth at last line manhole
Minimum Slope	0.007

Source: Ruggeri-Jensen-Azar & Associates. Sewer Study for The Preserve. June 2020.

Solid Waste

Solid waste generated by the proposed project was estimated and considered with respect to the anticipated capacity at the solid waste facilities that would serve the proposed project. Sources of solid waste generation for the proposed project include demolition waste, construction material waste, and waste associated with long-term operations of the proposed residences. The U.S. EPA's report, *Estimating 2003 Building-Related Construction and Demolition Materials Amounts*,

was used to calculate solid waste generation associated with construction and demolition of the proposed project.[18] Operational solid waste generation was calculated using the 2018 CalRecycle Jurisdiction Diversion/Disposal Rate Summary for Rancho Cordova.[19]

Natural Gas and Electricity

The natural gas and electricity discussion evaluates whether new or expanded natural gas and electrical infrastructure would be necessary to serve the proposed project. Gas and electricity demand for the project are estimated and provided separately in Chapter 5, Statutorily Required Sections, of this EIR.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

4.9-1 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. Based on the analysis below, the impact is *less than significant*.

The proposed project would include the development of 440 single-family residences and various associated improvements including, but not limited to, parks, landscaping, circulation improvements, and utility installation. By introducing new residences to the project area, the proposed project could increase the demand for fire protection services within the City.

The relevant CEQA threshold is whether new or physically altered stations are needed to meet response times or other performance objectives, the construction of which could cause environmental impacts. As noted previously, Rancho Cordova is serviced by the SMFD. The nearest station is Station 68, located 2.8 miles southwest of the project site. The ISO recommends that new urban developments have a fire station within 2.5 miles from residential projects when build-out exceeds 20 percent of the City. Thus, the distance between the proposed development and Station 68 would only slightly exceed the ISO-recommended distance. The SMFD has a response time goal of five minutes or less for 80 percent of calls in the City. The SMFD currently meets this goal, and the response time goal is anticipated to be feasible for servicing the proposed project given the proximity of project site to the nearest fire stations.

All structures constructed as part of the proposed project would be designed in compliance with Title 17 of the Municipal Code and all applicable provisions of the California Fire Code. Buildings would be required to include features such as smoke

[18] U.S. Environmental Protection Agency. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts.* 2009.

[19] CalRecycle. *Jurisdiction Diversion/Disposal Rate Summary (2007 – Current).* Available at: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006. Accessed October 2020.

alarms, fire hydrants, and fire department access to reduce potential fire hazards. The SMFD has authority to enforce the California Fire Code and issue citations for any violations. Compliance with the aforementioned standards would reduce the demand for fire protection services associated with the proposed development.

The SMFD is currently funded through development impact fees, taxes, and grants from the Capital Improvement Program. The proposed project would be subject to payment of the SMFD's Capital Fire Facilities Fee, which was established through AB 1600. The Capital Fire Facilities Fee provides the authority for SMFD to fund the full cost of providing new fire services and facilities to new development within the SMFD service area. Required payment to the SMFD would ensure that adequate fire protection facilities are available to serve the project.

For the above-discussed reasons, the proposed project would not result in substantial adverse physical effects associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts. Thus, the proposed project would have a ***less-than-significant*** impact.

Mitigation Measure(s)
None required.

4.9-2 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Based on the analysis below, the impact is *less than significant*.

Police protection for the project site would be provided by the RCPD, which is headquartered approximately 4.3 miles northwest of the project site. As noted previously, the project is expected to generate approximately 1,333 new residents, which could, in turn, increase demand for police protection services. The project applicant would be required to pay the City's applicable Community Facility Fees, which are used to fund new and expanded public service facilities, including police facilities, within the City's Planning Area. Payment of the Community Facility Fees would ensure that adequate police protection facilities are available to serve the project. Staff at the RCPD have confirmed that, given payment of applicable development impact fees, impacts related to police protection are not anticipated.[20]

Furthermore, the proposed project would be designed in accordance with the Safety Element of the City's General Plan. Policy S.7.1 requires that neighborhoods use CPTED principles to provide security and safety for people and property. CPTED principles include strategies such as natural surveillance and access control, which are implemented by using: adequate outdoor lighting, door and windows that look out onto streets, distinguishing property lines, including window licks and dead bolts, etc.

[20] Jeff Rodrigues, Crime Analyst, Rancho Cordova Police Department. Personal communication [phone] with Joe Baucum, Associate, Raney Planning and Management, Inc. May 11, 2021

The inclusion of the aforementioned design features would help to reduce the project's demand on police services.

Because the proposed development would be designed in compliance with Policy S.7.1 and would include payment of the applicable development impact fees, the proposed project would not result in substantial adverse effects associated with for the provision of new or physically altered police protection facilities, the construction of which could cause significant environmental impacts. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.9-3 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools. Based on the analysis below, the impact is *less than significant*.

The project site falls within the boundaries of the FCUSD, which is comprised of two preschools, 23 elementary schools, nine middle schools, and eight high schools. As of the 2018-2019 school year, the total enrollment is 20,487 students across the FCUSD.[21] Based on the 2019 School Facility Needs Analysis, the FCUSD has a current capacity of 25,529 students.[22]

The proposed project would include residential development, and, thus, would increase the number of students attending local school facilities. The student generation estimates presented in Table 4.9-6 are based on the rates provided in the FCUSD's School Facility Needs Analysis.[23]

Table 4.9-6
Student Generation Estimates

Housing Type	# of Units	K-5 Students		6-8 Students		9-12 Students	
		Rate	New Students	Rate	New Students	Rate	New Students
Single Family	440	0.33	145	0.14	62	0.17	75
						Total New Students	**282**

Source: Folsom Cordova Unified School District Department of Facilities and Planning, 2019 School Facility Needs Analysis [pg 9], April 2019.

[21] Department of Education, California School Dashboard. *District Performance Overview: Folsom-Cordova Unified.* 2019.
[22] Folsom Cordova Unified School District Department of Facilities and Planning. *2019 School Facility Needs Analysis.* April 2019.
[23] Folsom Cordova Unified School District Department of Facilities and Planning. *2019 School Facility Needs Analysis* [pg 9]. April 2019.

As shown in the table, the proposed project is expected to result in 282 new students, which would bring the total enrollment in the FCUSD to 20,769 students (20,487 + 282 = 20,769).

The Rancho Cordova General Plan EIR concluded that the, FCUSD is operating at or near capacity for elementary and high schools, and that the school district has experienced considerable growth in the past few years. However, according to more recent data, the district is currently operating at 80.2 percent capacity, and implementation of the proposed project would bring enrollment up to 81.3 percent capacity. As such, the FCUSD has the capacity to support the increase in students resulting from the proposed project.

The project applicant would be subject to required payment of the FCUSD's development impact fees, which are used to fund new and expanded school facilities.[24] Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[…] legislative or adjudicative act…involving …the planning, use, or development of real property" (Government Code 65996(b)). Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation."

Based on the above, the proposed project would not be likely to result in new capacity exceedances within FCUSD schools. In addition, the project would be subject to payment of applicable development impact fees for school facilities. Thus, the proposed project would not result in substantial adverse effects associated with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts. Therefore, the impact would be ***less than significant***.

Mitigation Measure(s)

None required.

4.9-4 Require or result in the relocation or construction of new or expanded water, wastewater treatment, or electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Based on the analysis below, the impact is *less than significant*.

The following sections describe the water, wastewater treatment, electric power, natural gas, and telecommunications facilities improvements that would be necessary to serve the proposed project.

Water Conveyance Infrastructure

The proposed project would include connection of new eight-inch water mains to an existing 10-inch water main located within Edington Drive. The new water lines would

[24] Folsom Cordova Unified School District. *Development Impact Fees*. Available at: https://www.fcusd.org/Page/2291. Accessed October 2020.

run throughout the drive aisles with the proposed residential development and would service all units.

The design of the new water lines would be required to comply with all *Sacramento County Water Agency's 2018 Improvement Standards*. Sacramento County sets performance standards for water distribution systems, presented in Table 4.9-7 below.

As part of the Water Study, the proposed project was modeled to evaluate the ability of the existing and proposed water conveyance infrastructure to serve the proposed project. As shown in Table 3 of the Water Study (see Appendix J), all of the County's operating goals would be met throughout the water distribution system under all conditions that were tested.

Table 4.9-7
Performance Goals for SCWA Water Distribution Systems

Operating Goal	Requirement
Peak Hour Minimum Pressure	35 pounds per square inch (psi)
Peak Hour Maximum Pressure	65 psi
Average Day Maximum Velocity	5 foot-pound-second (fps)
Peak Hour Maximum Velocity	7 fps
Peak Hour Maximum Unit Headloss	3 ft/1,000 ft
Maximum Day Demand + Fire Flow Minimum Pressure	20 psi
Maximum Day Demand + Fire Flow Maximum Velocity	10 fps

Source: Ruggeri-Jensen-Azar & Associates, Water Study, September 2018.

The modeling results demonstrate that the water conveyance infrastructure network would provide sufficient water pressure at the proposed residences. Although the Water Study primarily analyzed the water distribution system using the original unit count of 434, Ruggeri-Jensen-Azar & Associates determined that an additional six lots (a 1.4 percent increase in unit count) would have a negligible impact on the water model; therefore, the water distribution system would continue to have sufficient water pressure even with the six-unit increase, and the conclusion remains applicable.

Wastewater Infrastructure

The proposed project would include new eight-inch sanitary sewer connections to the existing eight-inch sewer lines within Edington Drive and Thornberg Way.

As part of the Sewer Study (see Appendix J), the proposed project was modeled to evaluate the ability of the existing and proposed wastewater conveyance infrastructure to serve the proposed project. Per the Sewer Study, the proposed project is expected to generate approximately 310 gpd of wastewater per dwelling unit and result in a combined Peak Wet Weather Flow of 0.365 mgd. Upstream sewer sheds do not exist. Per the modeling conducted as part of the Sewer Study, 0.210 mgd would leave the site at Node WP/MH-1, 0.155 mgd would leave the site at Node WP-6/MH-26A, and all wastewater would ultimately flow through Node DR-4 in Douglas Road. Node DR-4 has a capacity of 6.697 mgd. The proposed project would increase flows at Node DR-4 from 5.442 mgd to 5.927 mgd. As such, the wastewater generated by the

proposed project could be adequately accommodated by the existing sewer infrastructure.

Based on the results of the modeling, sewer flows generated by the proposed project would be accommodated by the downstream wastewater conveyance system, and expansion of existing infrastructure would not be required to serve the proposed project.

Electricity, Natural Gas, and Telecommunications

The project site would receive natural gas and electric service from PG&E and SMUD, respectively. The proposed project would connect to existing electrical, natural gas, and telecommunications infrastructure located to the south of the site within the neighboring subdivision.

Although the proposed project would increase the demand for natural gas service on the project site, the increase in demand would be relatively small in comparison to overall demand within the City of Rancho Cordova, and PG&E is anticipated to have adequate capacity to handle the increase in natural gas demand resulting from the proposed project. Furthermore, pursuant to the 2019 CBSC, the proposed residences would be required to include on-site renewable energy systems sufficient to meet 100 percent of the project's electricity demands; thus, any increase in electricity demand is anticipated to be met by on-site sources of electricity.

Several purveyors provide internet, telephone and other cable-related services to the City. While implementation of the proposed project would result in population growth and require the expansion of these services, most of the underground and aerial telecommunication transmission lines are generally co-located with other utilities on poles or underground trenches. As such, the existing telecommunication infrastructure would be sufficient to serve the proposed project and a need to upsize or upgrade the existing dry utilities is not anticipated.

Conclusion

Based on the above, the proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. In addition, as required by the General Plan, the project applicant would be required to pay development impact fees which would contribute towards the cost of future upgrades to public infrastructure and utilities. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.9-5 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Based on the analysis below, the impact is *less than significant*.

Development of the proposed residential subdivision would result in increased demand for water supplies relative to existing conditions. As noted previously, per the WSIP and the 2015 UWMP, the SCWA has not previously anticipated domestic water demands associated with the project site, given that the City's General Plan designates the site for agricultural uses.

Based on the Water Study, the proposed project is expected to result in an overall maximum day domestic water demand of 212.688 gpd, or 148 gpm, which is equivalent to approximately 239 AFY. As shown in Table 4.9-2, Table 4.9-3, and Table 4.9-4 above, per the 2015 UWMP, the SCWA has projected a surplus of at least 4,522 AFY for average year, single dry year, and multiple dry year conditions. Given the SCWA's surplus of at least 4,522 AFY, the proposed project's estimated increase in water demand, even with an additional six units included in the water model, could be accommodated by the SCWA's water supplies without new or expanded entitlements.

Based on the above, sufficient water supply would exist to serve the proposed project's operational water demand and reasonably foreseeable future development during normal, dry, and multiple dry years. In addition, as required by the General Plan, the project applicant would be required to pay development impact fees which would contribute towards the cost of future upgrades to public infrastructure and utilities, including water supply systems. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.9-6 Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Based on the analysis below, the impact is *less than significant*.

Wastewater services for the proposed project would be provided by CSD-1 of the SRCSD, and wastewater from the project would be treated at the SRWTP. Based on the Sewer Study, the proposed project is expected to generate an Average Dry Weather Flow (ADWF) of 0.136 mgd (310 gpd/unit x 440 units = 136,540 gpd) and a combined Peak Wet Weather Flow of 0.365 mgd. The existing permitted capacity at the SRWTP is 181 mgd ADWF.[25] Per the SRWTP's NPDES Permit (No. CA0077682), adopted in April of 2016, the ADWF at that time was approximately 120 mgd.[26] As

[25] Sacramento Regional Community Services District. *Final Executive Summary: Sacramento Regional Wastewater Treatment Plant* [pg 7]. May 2008.
[26] California Regional Water Quality Control Board, Central Valley Region. *Order No. R5-2016-0020-01 NPDES No. CA0077682* [pg I-7]. April 2016.

such, the SRWTP was operating at approximately 63 percent of permitted capacity. Therefore, adequate capacity exists to treat the additional 0.136 mgd of ADWF that would be generated by the proposed project.

Furthermore, the project applicant would be required to pay sewer impact fees to the City, which would contribute towards the cost of future upgrades of the City's wastewater conveyance system and the SRWTP. Impact fees are intended to fund system improvements and maintenance, and new residential projects are required to pay a connection fee.[27] Required payment of sewer impact fees would ensure that the SRWTP receives adequate funding for necessary future improvements.

Based on the above, the proposed project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. In addition, as required by the General Plan, the project applicant would be required to pay development impact fees which would contribute towards the cost of future upgrades to public infrastructure and utilities, including wastewater treatment systems. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required

4.9-7 Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, or conflict with federal, state, and local management and reduction statutes and regulations related to solid waste. Based on the analysis below, the impact is *less than significant*.

Solid waste generated from the proposed project would be disposed of at the Kiefer Road Landfill. The landfill is located at 12701 Kiefer Boulevard, near the intersection of Kiefer Boulevard and Grant Line Road. According to the City's General Plan EIR, the Kiefer Road Landfill has a total capacity of 117 million cubic yards and is permitted to accept a maximum of 10,815 tons per day, or 3.9 million tons per year, of solid waste. The Kiefer Road Landfill is operating below permitted capacity and has a current anticipated closure date of 2064.

The proposed project would require demolition of the two on-site single-family residences and associated outbuildings in the southern portion of the project site. Such structures total approximately 12,000 square feet (sf). According to the U.S. EPA's report, *Estimating 2003 Building-Related Construction and Demolition Materials Amounts*, residential demolition results in an average of 127 pounds of waste per sf.[28] Considering the project would require demolition of 12,000 sf, the demolition activities

[27] City of Rancho Cordova. *Development Related Processes and Fees*. May 2018.
[28] U.S. Environmental Protection Agency. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts.* 2009.

would generate approximately 1,524,000 lbs of solid waste. In addition, the proposed project would include construction of approximately 781,200 sf of single-family residential uses. Per the same report from the U.S. EPA, residential construction activities generate an average of 4.39 lbs/sf of waste. As such, the proposed construction activities would produce approximately 3,429,468 lbs of waste. In total, construction and demolition would generate approximately 2,406 tons of solid waste.

The construction debris estimate presented above represents a conservative analysis of the maximum potential waste production from the construction process. Under Sections 4.408 and 5.408 of the 2019 California Green Building Standards Code, applicable projects to divert at least 65 percent of all construction and demolition debris through recycling, reuse and/or waste reduction. As such, a minimum of 1,564 tons of waste would be diverted away from landfill disposal during construction.

Waste generated by the construction process would be spread over approximately two years. However, in order to provide a conservative analysis, the total estimated waste that would be generated by construction was assumed to occur during only one year. Therefore, the project's anticipated total construction waste of 600 tons was compared to the Kiefer Road Landfill's total yearly capacity and remaining yearly capacity. With the conservative assumption that construction waste occurs in a single year, the estimated waste generation would equal approximately 0.02 percent (600 tons/3,947,475 tons X 100 = 0.015) of the Landfill's total remaining annual capacity. Thus, construction waste associated with the proposed project could be accommodated by the Kiefer Road Landfill.

Once constructed, the proposed residences would generate solid waste. Per the CalRecycle Jurisdiction Diversion/Disposal Rate Summary for Rancho Cordova, the most recent (2018) annual per capita disposal rate is 4.2 PPD per resident. Given that the proposed project would house approximately 1,333 future residents, operation of the proposed project would generate approximately 5,599 lbs of waste per day (2.8 tons).

Operational waste generation of 2.8 tons per day would equal approximately 0.03 percent (2.8 tons/10,815 tons X 100 = 0.0237) of the Kiefer Road Landfill's remaining daily capacity. Therefore, the proposed project's operational waste generation could be accommodated by the existing capacity of the Kiefer Road Landfill.

It should be noted that in 2016, California achieved a Statewide residential waste diversion rate of 61 percent.[29] The diversion rate represents the percentage of the State's solid waste stream that is diverted from landfills and recycled or composted. Assuming a similar diversion rate for the City of Rancho Cordova, approximately 623.42 tons of waste (1,022 tons X 0.61 diversion rate = 623.42 tons) generated by operation of the proposed project would be diverted from the Kiefer Road Landfill annually.

[29] California Department of Resources Recycling and Recovery (CalRecycle). *California's Estimated Statewide Diversion Rates Since 1989*. Available at: http://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/Graphs/EstDiversion.htm. Accessed July 2019.

Based on the above, the proposed project would not exceed the permitted capacity of the Kiefer Road Landfill in the project's construction and/or operational phases. Additionally, the proposed project would be required to abide by all aforementioned local, State, and federal regulations. As a result, the proposed project would be serviced by a landfill with adequate capacity and would not violate any relevant statutes related to solid waste disposal. Therefore, a ***less-than-significant*** impact related to solid waste would occur.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. Refer to Chapter 5, Statutorily Required Sections, of this EIR for more detail.

4.9-8 Cumulative impacts to fire and police protection services. Based on the analysis below, the cumulative impact is *less than significant*.

The proposed project would be provided police protection services by the RCPD, and fire protection services by SMFD. The environmental effects of construction of fire and police facilities in the planning area have been considered in the technical analyses of the General Plan EIR as part of overall development of the Planning Area. The General Plan EIR concluded that buildout of the City of Rancho Cordova would result in a less-than-significant impact related to increased demand on fire protection services, provided that the proposed project complies with all existing SMFD and Sacramento County standards and guidelines. With regard to police protection services, impacts were similarly determined to be less than significant.

The proposed project would have the potential to result in increased demands for fire and police protection services at the project site. However, as discussed under Impacts 4.9-1 and 4.9-2 above, although new or physically altered facilities are not anticipated to be required, the proposed project would be subject to the payment of development impact fees to ensure that any required expansion of facilities or staffing numbers can occur. The proposed structures would be designed in compliance with all applicable provisions of the California Fire Code and would include features, such as smoke alarms, to reduce potential fire hazards. In addition, the proposed project would be designed in accordance with the safety element of the City's General Plan. Policy S.7.1 requires that certain design features be included in building and neighborhood designs to prevent crime and provide safety and security. Furthermore, the proposed project would be subject to payment of the City's applicable Community Facility Fees to support adequate provision of fire and police facilities and equipment. Similar to the proposed project, other future development projects within the City would be required by the City to pay their fair-share fees toward the provision of adequate public services and facilities.

Based on the above, a ***less than cumulatively considerable*** impact would occur related to resulting in a need for new or expanded fire and police protection facilities, the construction of which could cause significant environmental impacts.

Mitigation Measure(s)
None required.

4.9-9 Cumulative impacts to public schools. Based on the analysis below, the cumulative impact is *less than cumulatively considerable.*

Buildout of the project area would result in an increase in population and a subsequent increase in demand for public schools. As noted in the Ranch Cordova General Plan EIR, implementation of the General Plan in combination with other reasonably foreseeable regional developments proposed in eastern Sacramento County would result in a cumulative increase in student enrollment. In order to accommodate the increase in student enrollment, the FCUSD would require additional schools and related facilities.

However, SB 50 funding would partially mitigate impacts to public schools. In addition, the existing funding mechanisms, bond measures within the school district, and implementation of the Sacramento County General Plan and proposed Rancho Cordova General Plan policies and associated action items would reduce the cumulative impacts on public school facilities. Additionally, pursuant to State law, payment of statutory impact fees represents full and complete school facilities mitigation. As such, although cumulative regional development would result in an increased demand for public schools, payment of impact fees and implementation of General Plan policies would ensure that impacts would remain less than significant.

Based on the above, a ***less than cumulatively considerable*** impact would occur related to a need for new or expanded public school facilities, the construction of which could cause significant environmental impacts.

Mitigation Measure(s)
None required.

4.9-10 Cumulative impacts to utilities and service systems. Based on the analysis below, the project's incremental contribution to this cumulative impact would be *less than cumulatively considerable*.

A discussion of potential cumulative impacts on utility systems is provided below.

Water Supply
The Rancho Cordova General Plan EIR analyzed cumulative impacts to water supply and water conveyance infrastructure under Impact 4.12.3.2. As noted therein, the land uses associated with buildout of the Rancho Cordova General Plan would require considerable modifications and improvements to the existing water supply delivery

system to meet the projected water demands. Additional water treatment, storage capacity, and the extension of the existing water system, including pipelines and other transmission and conveyance infrastructure, would be required to meet the demand for the General Plan growth and other anticipated regional growth. The General Plan concluded that impacts related to water supply utilities would be cumulatively considerable and significant and unavoidable.

According to the WSIP, the Zone 40 service area would be fully built out in the year 2052. At full buildout, the water demand for Zone 40 would be 102,400 AFY. According to WSIP Table 4-3, Zone 40 has a long-term average water supply of 121,418 AFY, which would be sufficient to meet the projected water demand. Even after three dry years, the SCWA would have approximately 11,800 AFY excess water supply after meeting the demand from cumulative buildout of the service area. As such, sufficient water supplied exist to meet the demand of the proposed project in conjunction with cumulative buildout of the region.

The WSIP identifies a Capital Improvement Plan to provide the necessary infrastructure improvements throughout Zone 40 as buildout occurs. Implementation of the Capital Improvement Plan may result in environmental impacts. However, the Water Study concluded that the proposed project would not adversely affect the downstream system, and the existing infrastructure is sufficient to serve the proposed project. As such, the proposed project's incremental contribution to the cumulative impact would be less than cumulatively considerable.

Based on the above, the water conveyance infrastructure is adequately sized to accommodate cumulative development within the SCWA service area, including the proposed project, and sufficient water supplies are available to serve such cumulative development. Therefore, the project's incremental contribution to cumulative impacts related to water conveyance and water supplies would be less than cumulatively considerable.

Wastewater

The Rancho Cordova General Plan EIR analyzed cumulative impacts to wastewater treatment capacity and conveyance infrastructure under Impact 4.12.4.2. Development under the General Plan and other development planned in Sacramento County and SRCSD's service area would substantially increase cumulative demands for wastewater services and related facilities. While planned improvements to the wastewater infrastructure network have been analyzed in the General Plan EIR, future growth may require modification and expansion of currently planned wastewater facility improvements. Overall, the General Plan EIR concluded that impacts related to cumulative wastewater service demands are less than cumulatively considerable, but impacts related to infrastructure/facility expansion are cumulatively considerable and significant and unavoidable.

As discussed under Impact 4.9-4 above, wastewater generation associated with buildout of the project site was modeled by Ruggeri-Jensen-Azar & Associates. Based on the results of the modeling in the Sewer Study, implementation of the proposed project would not adversely affect the downstream sewage system, and the existing infrastructure is sufficient to serve the proposed project. The Sewer Study considered

cumulative development in the area, and noted that future upstream areas would not be served through the project site. Therefore, considering the wastewater conveyance system can adequately accommodate flows from the proposed project, and future upstream areas would not be served through the same conveyance system, it follows that the wastewater conveyance system would be able to accommodate cumulative development in the area. Any new additional development upstream of the proposed project would be subject to subsequent environmental review. Overall, the proposed project's incremental contribution to the cumulative impact would be less than cumulatively considerable.

The SRWTP currently has a permitted capacity of 181 mgd for ADWF and 400 mgd of Average Wet Weather Flows (AWWF). The SRCSD is in the process of expanding the SRWTP to accommodate 250 ADWF and maintain the 400 mgd for AWWF.[30] Per the City's General Plan EIR, projected wastewater generation rates by year 2030 are estimated to be 36.5 mgd and under buildout conditions 42.2 mgd. As such, wastewater generated from the proposed project (0.136 mgd) would constitute 0.3 percent of the wastewater treatment demand at buildout of the City's planning area. The wastewater treatment projections used in the General Plan, presented above, were determined based on population growth estimates, and land use designations were not considered. As such, even though the proposed project includes a change in land use designation, the project would be included as part of the City's planned regional growth estimated. Therefore, impacts to wastewater treatment facilities have been anticipated in the General Plan EIR. While the General Plan EIR concluded that impacts related to infrastructure/facility expansion would be cumulatively considerable and significant and unavoidable, the proposed project would be subject to payment of development fees to fund the planned Capital Improvement Program, and the project's increment contribution to the impact would be less than cumulatively considerable.

Solid Waste

The Rancho Cordova General Plan EIR analyzed cumulative impacts related to solid waste under Impact 4.12.5.2. Using the per capita solid waste generation identified and assuming implementation of mandatory reduction and diversion programs, cumulative development associated with the General Plan would generate approximately 111,804 tons of solid waste per year. The Kiefer Landfill, the Forward Landfill in Manteca, and the Lockwood Regional Landfill in Nevada would accommodate the City's Planning Area solid waste disposal demands. Such landfills would have adequate capacity to accommodate projected population growth and subsequent solid waste generation in the City's Planning Area at buildout under the General Plan. As such, the General Plan EIR concluded that implementation of the Rancho Cordova General Plan would not require additional landfill capacity, and impacts would be less than cumulatively considerable.

The proposed project would contribute construction, demolition, and operational waste to the Kiefer Landfill. As discussed above, numerous State and federal regulations exist regarding the composition and volume of solid waste being directed to landfills, as well as the amount of solid waste being diverted for recycling or reuse programs. The Kiefer Landfill currently has remaining capacity of 112 million cubic yards, and the

[30] City of Rancho Cordova. *City of Rancho Cordova General Plan Environmental Impact Report* [pg 4.12-47]. June 2006.

current permitted capacity is anticipated to allow operation of the landfill to continue until the year 2064. The solid waste attributable to the proposed project would not be considered substantial considering the landfill's existing capacity of 800 tons per day and the remaining capacity of 112 million cubic yards. Therefore, the proposed project in combination with future buildout of the City's Planning Area would not result in a significant cumulative impact related to solid waste.

Energy, Natural Gas, and Telecommunications

The Rancho Cordova General Plan EIR analyzed cumulative impacts related to electrical, telephone, and cable services under Impact 4.12.8.2. As noted therein, the local Cosumnes Power Plant and Upper American River Project would ensure a guaranteed and adequate long-term energy supply to meet buildout conditions in the City's Planning Area. In addition, PG&E has also indicated that it has adequate natural gas supply and would extend infrastructure, as needed, to serve the growth anticipated under cumulative conditions. Overall, the General Plan EIR concluded that impacts related to energy, natural gas, and telecommunications would be less than cumulatively considerable.

The project would receive electricity from SMUD and natural gas from PG&E. Energy use associated with operation of the proposed project would be typical of residential uses requiring electricity and natural gas for interior and exterior building lighting, heating, ventilation, and air condition (HVAC), electronic equipment, machinery, appliances, security systems, and more.

The 2019 CBSC requires that new single-family residences include solar panels sufficient to generate 100 percent of the residents' electricity demand. As such, the operational demand for grid energy from SMUD associated with the proposed project would be zero kWh/hr. Thus, the project would not result in a net increase in electricity demand, and would not contribute to electricity demand associated with cumulative development under the General Plan.

Based on the air quality modeling prepared as part of Chapter 4.1, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR, the project's natural gas consumption would total approximately 10,654,300 kBTU/yr, or 106,568 therms. The Countywide consumption of natural gas in 2018 was 194 million therms.[31] Thus, the project would account for less than one percent of the County's total usage. Because the proposed project would increase natural gas demand by a relatively nominal percentage, the proposed project's incremental increase in natural gas consumption would not result in a cumulatively considerable increase in demand in combination with future buildout of the City.

While cumulative development within the City of Rancho Cordova would increase demand on the City's telecommunications service providers (i.e., Comcast, AT&T, etc.), such services are readily scalable and would be expanded as necessary to accommodate future growth. Thus, cumulative impacts related to electricity, natural gas, and telecommunications would be less than significant.

[31] California Energy Commission. *Gas Consumption by County: Sacramento County, Residential Sector, Year 2018*. Available at: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed January 24, 2020.

Conclusion

The proposed project, in conjunction with buildout of the City's Planning Area, would increase demand on utilities in the area and have the potential to result in a significant cumulative impact. However, this analysis has demonstrated that the proposed project's incremental contribution to this cumulative impact would be considered ***less than cumulatively considerable***.

Mitigation Measure(s)

None required.

4.10 Transportation

4.10 TRANSPORTATION

4.10.1 INTRODUCTION

The Transportation chapter of the EIR addresses the existing and cumulative transportation conditions associated with the development of the proposed project. The analysis includes consideration of vehicle traffic impacts on roadway capacity, circulation, transit, and bicycle and pedestrian facilities, as well as vehicle miles travelled (VMT). Where development of the proposed project would conflict with applicable policies or guidelines, mitigation measures are identified. The information contained within this chapter is primarily based on the Traffic Impact Analysis (TIA),[1] Vehicle Miles Traveled (VMT) Evaluation,[2] Supplemental Analysis,[3] and The Preserve Centennial Drive Considerations Memorandum (Centennial Drive Memorandum)[4] prepared for the proposed project by Kimley-Horn (see Appendix K), as well as the City of Rancho Cordova General Plan,[5] and the City of Rancho Cordova General Plan EIR.[6]

4.10.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing conditions of the project site and surrounding area in relation to the existing transportation system within the project region, including the roadway network, transit, bicycle and pedestrian facilities.

Regional Setting

The project region is primarily characterized by a rural setting. The region includes agricultural areas, grasslands, wetlands, and valley oaks. Surrounding land uses include the Camden at Somerset Ranch residential subdivision directly to the south, vacant agricultural lands and a Teichert Aggregates Aggregate/Asphaltic Concrete site across Grant Line Road to the east, two single-family residences and industrial/open space to the north, and vacant land approved for the development of the Rio Del Oro residential community immediately adjacent to the west.

Regional access to the project area is provided by U.S. Route 50 (US 50). The portion of US 50 that runs through the City of Rancho Cordova connects to the City of Sacramento to the west and the County of El Dorado to the east.

Project Setting

Currently, the 279.3-acre project site contains two single-family residences and associated outbuildings on the southern portion of the site. An orchard is located within the northeastern portion of the site. A third single-family residence and associated outbuildings is located in the northwestern portion of the site. The remainder of the site consists primarily of non-native grasses, with scattered trees located in the vicinity of the existing residences and associated access roads. The site is characterized by moderate rolling hills and flatlands interspersed with seasonal

1 Kimley-Horn. *Traffic Impact Analysis for The Preserve, City of Rancho Cordova, California.* November 4, 2020.
2 Kimley-Horn. *The Preserve, Vehicle Miles Traveled (VMT) Evaluation*. August 16, 2021.
3 Kimley-Horn. *Supplemental Analysis for Six Additional Units.* February 8, 2021.
4 Kimley-Horn. *Memorandum: The Preserve Centennial Drive Considerations*. August 16, 2021.
5 City of Rancho Cordova. *Rancho Cordova General Plan*. Adopted June 26, 2006.
6 City of Rancho Cordova. *Rancho Cordova General Plan Environmental Impact Report*. June 2006

drainage corridors and wetlands. Additionally, Morrison Creek runs northeast to southwest through the project site. The elevation of the site ranges from 210 to 250 feet above mean sea level.

Access to the project site is provided by way of Raymer Way and the neighborhood roadways associated with the Camden at Somerset Ranch residential subdivision directly to the south. The following are descriptions of the primary roadways in the vicinity of the project site.

United States Route 50

US 50 is an east-west interstate facility located approximately five miles from the proposed project. US 50 connects the City of Rancho Cordova to the City of Sacramento to the west and the County of El Dorado to the east. Primary access to the project site from US 50 is provided at the Sunrise Boulevard, Zinfandel Drive and Mather Field Road interchanges. Near Zinfandel Drive, US 50 carries approximately 180,000 vehicles per day with five lanes in each direction and a speed limit of 65 miles per hour (mph) within the project vicinity.

State Route 16

State Route (SR) 16 is an expressway connecting the County of Amador and County of Sacramento, along the southern edge of the City of Rancho Cordova limits and connects with US 50 west of the project site. The expressway is also designated as Jackson Road in the project vicinity; however, for the purposes of this chapter, the roadway is cited as SR 16. South of the project site, between Sunrise Boulevard and Grant Line Road, SR 16 carries approximately 13,000 vehicles per day with one lane in each direction and a speed limit of 55 mph within the project vicinity.

Sunrise Boulevard

Sunrise Boulevard is a north-south arterial, connecting the project site to north Rancho Cordova and the County of Placer. Sunrise Boulevard is a six-lane roadway with a speed limit of 45 mph within the project vicinity.

Zinfandel Drive

Zinfandel Drive is a north-south arterial, connecting the project site to US 50, as well as the commercial, industrial, and residential areas northwest of the project site. Zinfandel Drive is a four-lane roadway with a speed limit of 45 mph within the project vicinity.

Raymer Way

Raymer Way is a local roadway adjacent to the project site and provides access to Grant Line Road to the east. Raymer Way is a two-lane roadway.

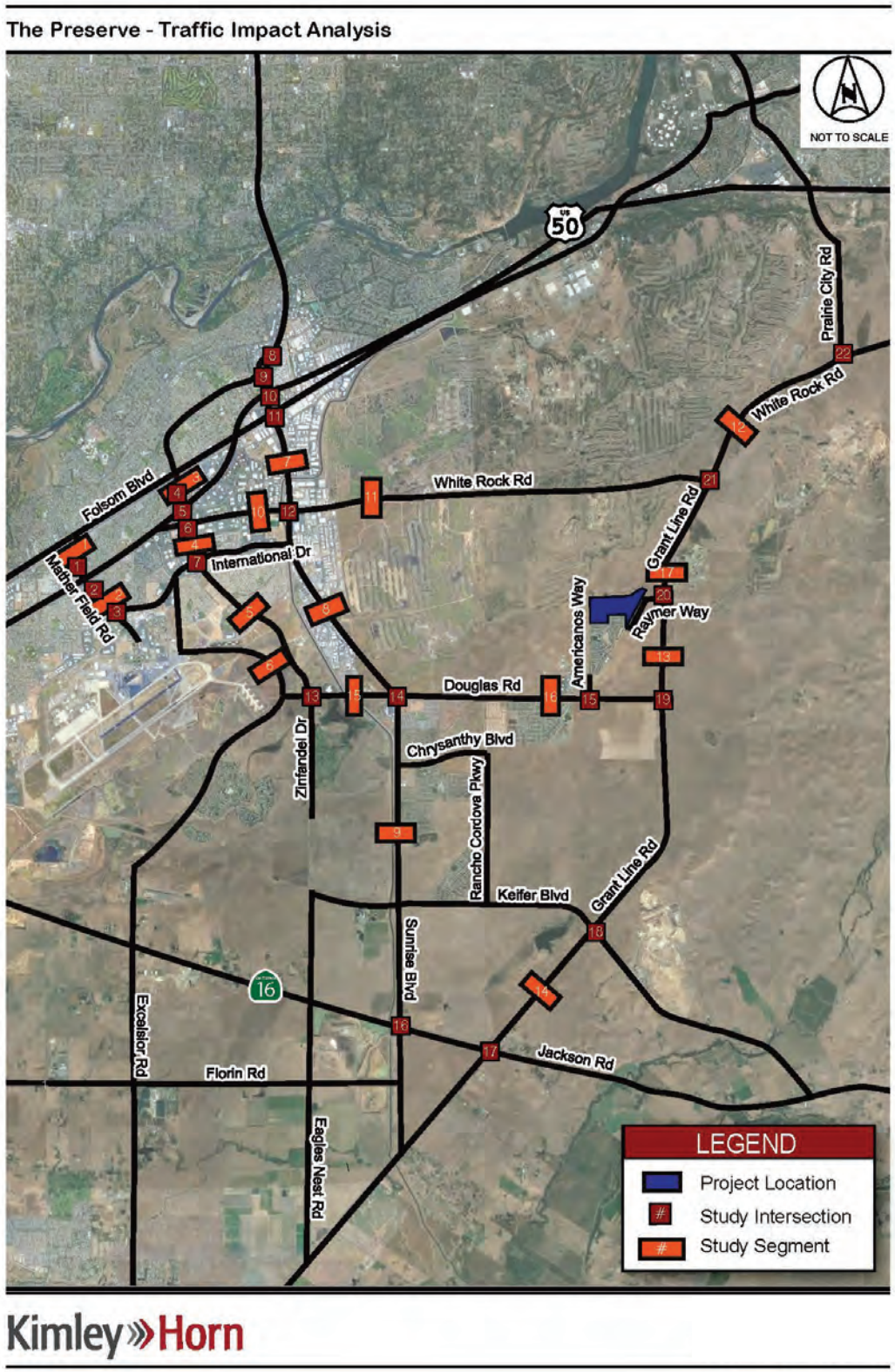
Americanos Boulevard

Americanos Boulevard is a local roadway that would provide access to the project site from the south. The roadway is a two-lane roadway that would serve as a connection between the project site and Douglas Road.

Study Area

The following intersections and roadway segments were selected for analysis in the TIA based on the project location, estimates of project-generated traffic, and locations of planned roadways in the project vicinity (see Figure 4.10-1).

Figure 4.10-1
Study Area



Intersections

1. Mather Field Road/US 50 Westbound Ramps;
2. Mather Field Road/US 50 Eastbound Ramps;
3. Mather Field Road/International Drive;
4. Zinfandel Drive/US 50 Westbound Ramps;
5. Zinfandel Drive/US 50 Eastbound Ramps;
6. Zinfandel Drive/White Rock Road;
7. Zinfandel Drive/International Drive;
8. Sunrise Boulevard/Zinfandel Drive;
9. Sunrise Boulevard/US 50 Westbound Ramps;
10. Sunrise Boulevard/US 50 Eastbound Ramps;
11. Sunrise Boulevard/Folsom Boulevard;
12. Sunrise Boulevard/White Rock Road;
13. Douglas Road/Zinfandel Drive;
14. Douglas Road/Sunrise Boulevard;
15. Douglas Road/Americanos Boulevard;
16. SR 16/Sunrise Boulevard;
17. SR 16/Grant Line Road;
18. Grant Line Road/Kiefer Boulevard;
19. Grant Line Road/Douglas Road;
20. Grant Line Road/Raymer Way;
21. Grant Line Road/White Rock Road; and
22. White Rock Road/Prairie City Road.

Roadway Segments

1. Mather Field Road, between Folsom Boulevard and US 50 Westbound Ramps;
2. Mather Field Road, between US 50 Eastbound Ramps and International Drive;
3. Zinfandel Drive, between Folsom Boulevard and US 50 Westbound Ramps;
4. Zinfandel Drive, between White Rock Road and International Drive;
5. Zinfandel Drive, between International Drive and Douglas Road;
6. Mather Boulevard, between Femoyer Street and Douglas Road;
7. Sunrise Boulevard, between Folsom Boulevard and White Rock Road;
8. Sunrise Boulevard, between White Rock Road and Douglas Road;
9. Sunrise Boulevard, between Douglas Road and SR 16;
10. White Rock Road, between Zinfandel Drive and Sunrise Boulevard;
11. White Rock Road, between Sunrise Boulevard and Grant Line Road;
12. White Rock Road, between Grant Line Road and Prairie City Road;
13. Grant Line Road, between Raymer Way and Douglas Road;
14. Grant Line Road, between Douglas Road and SR 16;
15. Douglas Road, between Mather Boulevard and Sunrise Boulevard;
16. Douglas Road, between Sunrise Boulevard and Grant Line Road; and
17. Grant Line Road, between White Rock Road and Raymer Way.

Vehicle Miles Traveled

Per the CEQA Guidelines, VMT is the primary metric used to identify transportation impacts under CEQA. VMT is a measure of the total amount of vehicle travel occurring on a given roadway system.

In 2013, Senate Bill (SB) 743 was passed to amend Sections 65088.1 and 65088.4 of the Government Code, amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of the Public Resources Code (PRC), to add Section 21155.4 to the PRC, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of the PRC, to add and repeal Section 21168.6.6 of the PRC, and to repeal and add Section 21185 of the PRC, relating to environmental quality. As a result of SB 743, as discussed in further detail below, local jurisdictions may no longer rely on vehicle level of service (LOS) and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA. Thus, consistent with the CEQA Guidelines, VMT is the primary metric used to identify transportation impacts to roadway systems within this chapter.

For residential development projects requiring a detailed evaluation of VMT, this analysis relied on guidance from the California Governor's Office of Planning and Research (OPR) to establish the threshold for determination of a significant VMT impact as 15 percent below the regional average VMT per capita. The VMT analysis prepared for the proposed project included the existing average VMT per capita for the entire Sacramento Area Council of Governments (SACOG) region. The existing VMT per capita average for the SACOG region was calculated using the same methodology used to calculate the proposed project's average VMT per capita, which is discussed in the Method of Analysis section. As shown Table 4.10-1, the existing average VMT per capita in the SACOG region is 23.2.

Table 4.10-1
Existing VMT per Capita in the SACOG Region

Trip Type	Internal VMT	External VMT	Total VMT
Origin	18,765,997	8,788,214	27,554,210
Destination	18,765,997	8,788,214	27,554,210
Total	**37,531,994**	**17,576,427**	**55,108,421**
Total Population			**2,376,311**
VMT per Capita			**23.2**

Source: Kimley-Horn. The Preserve, Vehicle Miles Traveled (VMT) Evaluation. August 16, 2021.

Transit System

Sacramento Regional Transit (SRT) offers multiple transit services with stops in the City of Rancho Cordova. SRT's Light Rail trains begin operation at 4:00 AM with service every 15 minutes during the day Monday through Friday and every 30 minutes in the evening and weekends. SRT has four stops in the City on the Gold Line, which runs along Folsom Boulevard Folsom to Downtown Sacramento and connects with the Green and Blue lines for easy access to other areas in the Sacramento region. The Gold and Blue lines operate until midnight on weekdays, and 10:30 PM on weekends. The Green Line only operates Monday through Friday.

SRT's Bus Service also runs through the City and includes five bus routes. The routes connect to the cities of Carmichael, Fair Oaks, Citrus Heights, and Rosemont. All bus routes connect with light rail stops. The routes nearest to the project site include Route 175, running along Douglas Road and Sunrise Boulevard; Route 176, running along Rancho Cordova Parkway, Kiefer Boulevard, and Sunrise Boulevard; and Route 177, running along Zinfandel Drive.

Bicycle and Pedestrian System

Per the City of Rancho Cordova Bicycle Master Plan,[7] the City has 235 miles of roadways, 17 miles of on-street bikeways, and 14 miles of off-street paths. Key regional connections include the American River Parkway Bicycle Trail that runs along the river at the north edge of the City, extending 31 miles from the Discovery Park in Sacramento to the Folsom Reservoir.

The Bicycle Master Plan classifies bike paths throughout the City into three types:[8]

- Class I – Off-street facilities dedicated exclusively for use by bicyclists, pedestrians, and in some cases, equestrians and other non-motorized travel such as roller skating and skateboarding;
- Class II – Delineated bike lanes, which comprise a portion of a street and are meant for bicyclists; and
- Class III – Bike routes, where the travel lane is shared by drivers and bicyclists and are generally designated on roadways with low levels of motor vehicle traffic where bicyclists may share the travel lane.

Due to the rural nature of the project site, existing bicycle and pedestrian facilities are minimal in the immediate vicinity of the site. US 50 does not offer paths designed to accommodate bikes or pedestrians, as the roadway's purpose is to serve high-speed vehicular travel. SR 16 includes shoulders on both sides of the expressway that could accommodate bicyclists; however, the expressway is not officially designated as a bike path in the Bicycle Master Plan. Sunrise Boulevard features sidewalk paths on both sides for pedestrian use; however, the roadway does not include officially designated bike paths. Within the stretch of roadway inside the City limits, Zinfandel Drive serves as a Class II bike path and offers shoulders outside the City limits that could accommodate bicyclists. Raymer Way does not include bike paths or sidewalks. The small stretch of Americanos Boulevard that connects to Edington Drive includes bike paths along both sides of the roadway, and the roadway also includes a sidewalk on the northbound side.

4.10.3 REGULATORY CONTEXT

The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of transportation under the CEQA process.

Federal Regulations

Federal regulations applicable to transportation within the project area do not exist.

State Regulations

The following are the State environmental laws and policies relevant to transportation.

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining all State-owned roadways in Sacramento County.

[7] City of Rancho Cordova. *City of Rancho Cordova Bicycle Master Plan*. Available at: https://www.cityofranchocordova.org/home/showdocument?id=11416. Accessed January 2021.

[8] While not described in the City of Rancho Cordova Bicycle Master Plan, a Class IV Bikeway, or a separated bikeway or cycle track, is a bikeway for the exclusive use of bicycles and includes a separation between bicycles and vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the State highway system within the County need to be approved by Caltrans. The County does not have the ability to unilaterally make improvements to the State highway system. The Caltrans Traffic Analysis Framework and Focused Transportation Impact Study Guide outlines when a VMT impact study is needed and what should be included in the scope of the study. US 50 and SR 16 are the facilities within the project vicinity that are under the oversight of Caltrans.

Caltrans has completed transportation or route concept reports for a number of State freeways and highways in the County. The reports identify long-range improvements for specific State freeway and highway corridors and establish the "concept," or desired, LOS for specific corridor segments. The reports also identify long-range improvements needed to bring an existing facility up to expected standards needed to adequately serve 20-year traffic forecasts. Additionally, the reports identify the ultimate design concept for conditions beyond the immediate 20-year design period.

Senate Bill 743

SB 743 (Stats. 2013, ch. 386) requires the Governor's Office of Planning and Research (OPR) to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the metric beyond TPAs. In response, OPR released the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which identified VMT as the preferred transportation impact metric. OPR applied their discretion to require the use of VMT statewide. SB 743 requires that as of April 27, 2019, vehicle LOS and similar measures related to delay shall not be used as the sole basis for determining the significance of transportation impacts. Determination of impacts based on VMT is required Statewide as of July 1, 2020.

CEQA Guidelines Section 15064.3

Section 15064.3 of the CEQA Guidelines was added in 2018 to address the requirements of SB 743 and the OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Section 15064.3 states the following:

> (a) Purpose.
>
> This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.
>
> (b) Criteria for Analyzing Transportation Impacts.
>
> (1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared

to existing conditions should be presumed to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

(c) Applicability.

The provisions of this section shall apply prospectively as described in section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide.

Technical Advisory on Evaluating Transportation Impacts in CEQA

The OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* includes potential significance thresholds for different types of land use projects and transportation projects. Distinct threshold recommendations are provided for residential, office, and retail projects. Such uses tend to have the greatest influence on VMT. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types. In developing thresholds for other project types, the *Technical Advisory on Evaluating Transportation Impacts in CEQA* directs lead agencies to consider the purposes described in Section 21099 of the PRC and regulations in the CEQA Guidelines on the development of thresholds of significance (e.g., CEQA Guidelines Section 15064.7). The *Technical Advisory on Evaluating Transportation Impacts in CEQA* suggests that lead agencies may screen out VMT impacts using project size, map-based approaches to low-VMT areas, transit availability, and provision of affordable housing.

Local Regulations

The following are the regulatory agencies and regulations pertinent to the proposed project on a local level.

Sacramento Area Council of Governments VMT Threshold

SACOG has two recommended methods for developing a project-specific VMT estimation:

- Method 1: Use of a "regional" transportation model, either by running the model directly to estimate VMT with and without the project (for large projects) or through use of screening methodologies (for small projects). The transportation model used for VMT estimation could either be the SACOG regional model (SACSIM19) or one of the many variants of the regional model developed by local agencies to provide more detailed analysis within their jurisdictions. If one of the local models is used, it should be sufficiently documented and maintained; or
- Method 2: Use of a customized spreadsheet or web-based tool for a specific study area or jurisdiction that uses information from a regional transportation model to provide VMT analysis.

VMT per capita includes all vehicle "tours" (both work/commute vehicle tours and non-work vehicle tours) that start and end at residential units. The VMT from these tours are grouped and summed to the home location of those tours. The VMT for each home is then summed for all homes in a particular area and divided by the total population of that area to arrive at VMT per capita.

SACSIM19 model is a "tour-based" Travel Demand Model (TDM). The vehicle tours estimated by SACSIM19 that begin and end at home include intermediate stops. For example, a work/commute vehicle tour could include stops on the way to work to drop a child at school and get coffee and a stop on the way home to go to a gym or get groceries. A non-work vehicle tour that begins and ends at home can also include more than one stop. The VMT from these tours must include the full mileage of the entire round-trip tour including all stops based on the City's focused version of the SACSIM19 model, both for Method 1 or Method 2 described above.

Tours made by a household resident that do not begin or end at home (called "business tours") are not included in the VMT per capita estimate. Such tours that begin and end at a work site can include trips for lunch or personal business but also job-related tours, such as deliveries, business meetings etc. These "business tours" are not included for the following reasons:

- The amount of business tours made by individuals can vary more based on their job type than their residential location. In the regional model, the number and length of those tours can vary greatly;
- Including business tours would require that all projects, including small to medium size residential projects, be evaluated using SACSIM19. Excluding business tours from VMT per capita allows use of Method 2 described above. Such methods can involve use of typical Institute of Transportation Engineers-based trip generation estimates (adjusted for relevant factors) along with full tour lengths from SACSIM19 that can be provided by the City for traffic analysis zone (TAZ); and
- The trip generation aspect of the selected method is equivalent to use of only "home-based trips," which is recommended by the OPR Technical Advisory when the regional model is "trip-based". However, by using the full length of home-based tours from SACSIM19, the selected method provides a more accurate estimate of VMT.

Using the State's guidance, absent other substantial evidence, thresholds should be set to 15 percent below the average VMT per capita. Per the VMT Evaluation prepared for the proposed

project, the average VMT per capita in the SACOG region, calculated using the same methodology used to determine the project's average VMT per capita, is 23.2. Therefore, the applicable threshold for project-specific VMT within the SACOG region would be 19.7 VMT per capita.

City of Rancho Cordova General Plan

The following goals and policies related to transportation are applicable to the proposed project:

Goal C.1 Develop a roadway system that accommodates future land uses at the City's desired level of service, provides multiple options for travel routes, protects residential areas from excessive traffic, coexists with other travel modes, and contributes to the quality of the City's residential, commercial, office, and industrial areas.

Policy C.1.1 Implement the Circulation Plan with the Roadway System and Sizing Diagram, shown as Figure C-1 (in the General Plan), as a modified grid network.

Policy C.1.2 Seek to maintain operations on all roadways and intersections at Level of Service D or better at all times, including peak travel times, unless maintaining this Level of Service would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of Level of Service D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or a City-initiated project.

Policy C.1.3 Recognize that regional traffic beyond the City's control, as well as circulation system decisions made prior to incorporation or by other agencies, will make it infeasible to achieve the City's desired Level of Service on all roadways. Subject development projects which affect these roadways to the provisions of Policy C.1.2 to provide offsetting improvements to the vehicular and/or non-vehicular transportation system.

Policy C.1.4 Discourage the creation of private roadways, except when the roadways are constructed to public roadway standards and private maintenance is assured, or are used in an affordable residential development.

Policy C.1.5 Design the circulation system serving the City's industrial areas to safely accommodate heavy truck traffic.

Policy C.1.6 Strongly discourage the use of cul-de-sacs on local roads, except where they are necessary due to site-specific concerns, such as habitat areas, that preclude construction of through routes. When cul-de-sacs are used, they should include bicycle and pedestrian connections to trail systems or adjacent major or connector streets.

Policy C.1.7 Require the installation of traffic pre-emption devices for emergency vehicles (police and fire) at all newly constructed intersections and seek to retrofit all existing intersections to incorporate these features.

Policy C.1.8 Ensure that where traffic calming devices or techniques are employed, adequate access is provided for police and fire vehicles.

Policy C.1.9 In an effort to reduce automobile traffic and congestion and increase use of other travel modes, support the use of trip reduction programs.

Policy C.1.10 Encourage maximum block lengths that provide multiple vehicular paths and increase pedestrian circulation around the City at the neighborhood level. The City's preferred block length is less than 600 feet. Block lengths between 600 and 800 feet may be acceptable on a case-by-case basis, and block lengths greater than 800 feet are generally considered unacceptable.

Goal C.2 Establish an extensive, complete, smooth, interconnected, and continuous pedestrian and bicycle network that is a safe and attractive option for local or regional trips or recreation and that connects to the City's neighborhoods, parks and schools, employment areas, and retail centers.

Policy C.2.1 Create a system of on- and off-street trails and multi-use paths, as generally illustrated on Figure C-2 (in the General Plan), that are used for walking and bicycling and that are attractive, natural, and safe transportation corridors.

Policy C.2.3 In designing development projects, design for the pedestrian first.

Policy C.2.4 Provide sidewalks throughout the City. Meandering sidewalks are discouraged, except where necessary to accommodate site-specific features such as trees or habitat.

Policy C.2.5 Provide safe and convenient bicycle access to all parts of the community.

Policy C.2.6 Provide on-street bike lanes along all connector roadways and on local and major roadways when necessary to provide for interconnected routes. On-street bike routes may be provided on local, connector, and major roadways as deemed necessary by the City.

Policy C.2.8 Promote bicycling and walking as a safe and attractive activity. Educate all road users to share the road and interact safely.

Policy C.2.10 Create safe and efficient at-grade crossings of roadways for pedestrian and bicyclists.

Goal C.3 Establish a viable transit system that connects all parts of the City and links with regional destinations.

Policy C.3.1 Advocate and develop transit services which meet the needs of residents and employees in Rancho Cordova.

Policy C.3.2 Maintain and improve access and mobility for seniors, youth, and the disabled with programs that meet their mobility needs.

Policy C.3.3 Promote the integration of transit facilities into new development.

Goal C.5 Fund the circulation system adequately to provide all desired services.

Policy C.5.2 Require proposed new development projects to analyze their contribution to increased traffic and to implement improvements necessary to address their impact on facilities not covered by a fee program.

Policy C.5.3 Assess fees sufficient to cover the fair share portion of all new development impacts on the local and regional transportation system.

Goal C.6 Provide a circulation system that is properly maintained and maximizes safety for all users.

Policy C.6.1 Maintain and repair streets, trails, and other circulation components according to priorities established on an annual basis.

City of Rancho Cordova Capital Improvement Plan

The 2019-2024 Capital Improvement Plan (CIP) represents the fiscal year (FY) 2019-2020 and FY 2020-2021 Capital Improvement Budgets and the three-year plan for FY 2021-2022 to FY 2023-2024. The CIP provides program summary information for the City's various capital improvement funding programs, as well as project summary information (revenue and expenditures) for the specific projects selected for implementation during the CIP period.

The currently adopted CIP allocated a total of $98.483 million in FY 2019-2020 and $35.455 million in FY 2020-2021. The amounts consist of new funding and reallocated funds for existing projects that are crossing fiscal years. Some of the funding allocated to FY 2018-2019 is expected to be needed to be reallocated (rolled over) to FY 2019-2020 as capital projects usually cross fiscal years. The reallocation of prior funding is to the same projects previously approved. Some of the projects are currently under construction and estimates have been made as to how much will be carried over to the next fiscal year. Funding for current planned projects from FY 2019/20 through Post FY 2023/24 total $495.568 million.

City of Rancho Cordova Transportation Impact Guidelines

The City's *Transportation Impact Guidelines* document establishes protocol for transportation impact studies and reports. At the time of this study, the City had not formally revised its guidelines

to address the requirements of SB 743. As such, Kimley-Horn relied heavily on OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* for this analysis.

The requirements to prepare a CEQA transportation VMT analysis apply to all land development projects, except for those that meet at least one of the VMT-related criteria described in OPR's guidance.

4.10.4 IMPACTS AND MITIGATION MEASURES

The standards of significance to be used in identifying transportation impacts are presented below. The standards are based on OPR guidance. In addition, the methods used to analyze the impacts of the project on the roadway, bicycle, pedestrian, and transit systems are provided in this section. A discussion of the project's impacts, as well as mitigation measures where necessary, are also presented.

Standards of Significance

The significance criteria used for this analysis were developed from Appendix G of the CEQA Guidelines. A transportation impact is considered significant if the proposed project would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

Method of Analysis

Documents referenced to prepare this chapter include a TIA and VMT Evaluation prepared for the project by Kimley-Horn. The methodology used within both documents is summarized below.

Level of Service

Pursuant to CEQA Guidelines, VMT is the primary metric used to identify transportation impacts to roadway systems within this chapter. However, in order to analyze the proposed project's compliance with a program, plan, ordinance, or policy addressing the circulation system as outlined in the General Plan's Circulation Element, the analysis below will incorporate LOS. LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity.

The TIA's analysis of LOS was performed in accordance with the County of Sacramento's traffic study guidelines and standards established by the Circulation Element of the City's General Plan. The TIA based its conclusions on the following thresholds of significance:

- Roadways/Signalized Intersections: A project is considered to have a significant effect if it would:
    - Result in a roadway or a signalized intersection operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
    - Increase the V/C ratio by more than 0.05 at a roadway or at a signalized intersection that is operating at an unacceptable LOS without the project.

- Unsignalized Intersections: A project is considered to have a significant effect it if would:
    - Result in an unsignalized intersection movement/approach operating at an acceptable LOS to deteriorate to an unacceptable LOS, and also cause the intersection to meet a traffic signal warrant; or
    - For an unsignalized intersection that meets a signal warrant, increase the delay by more than five seconds at a movement/approach that is operating at an unacceptable LOS without the project.

It should be noted that the TIA's analysis was based on subdivision of the project site into 434 lots. Subsequent to the preparation of the TIA, the applicant modified the project to include six additional lots. A Supplemental Analysis was prepared for the proposed project with the additional six units, which determined that the proposed project's 440 lots would not compromise or deteriorate LOS to an extent that would alter the conclusions in the TIA. Therefore, the TIA's analysis remains applicable. Further information on the methodology incorporated as part of the LOS analysis is included in the TIA (see Appendix K).

Project Vehicle Miles Travelled

Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Per Section 15064.3, analysis of VMT attributable to a project is the most appropriate measure of transportation impacts. While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, the method of analysis does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving.

OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* provided recommendations on many aspects of conducting a CEQA transportation analysis using VMT; however, OPR's guidance was not comprehensive and some key decisions were left for lead agencies to determine. In the absence of formally adopted thresholds and screening criteria, this study followed OPR's technical advisory to the greatest extent.

For residential development projects requiring a detailed evaluation of the VMT produced by the project, the threshold for determination of a significant VMT impact of 15 percent below the regional average of VMT per capita was applied. Consistent with OPR guidance, residential development projects exceeding the threshold carry a significant impact.

Calculating VMT per Capita

VMT per capita is determined using the City's adopted TDM, which is a focused version of SACOG's adopted SACSIM19 regional model. As part of the "SB 743 Implementation Tools Project," SACOG has two recommended methods for project-specific VMT estimation: Method 1 and Method 2, described above.

The VMT Evaluation for the proposed project used the City's version of SACOG's SACSIM19 model with a base year of 2016. A TAZ representing the project area with no other land use was used to isolate the proposed project from all surrounding land uses. The 440 residential units, as planned for the proposed project, were added to the project's TAZ to represent the project. Using socioeconomic characteristics of developments in the immediate vicinity of the project to develop

a profile of the households and persons expected to inhabit the proposed project, a population of 1,333 was estimated.

Using the output trip table from the TDM, automobile trips either starting or ending in the proposed project were selected. These trips were factored based on the auto occupancy; single-occupancy trips were multiplied by one, two-person vehicle trips were multiplied by 0.5, and three-or-more-person trips were multiplied by 0.3. Each trip was multiplied by the model-determined distance based on the model's skim matrix determining the distance between each TAZ during the peak periods to determine the trip's VMT. Each trip's VMT was totaled to determine the total internal-internal VMT related to the proposed project. External-internal and internal-external VMT was calculated based on the methodologies outlined in OPR's guidance. A script file provided by SACOG and included in SACOG's model for VMT post-processing was run, which determined the VMT for trips that either started or ended outside of the model area by TAZ. As the project was separated into its own TAZ, the VMT for the project's TAZ was added to the internal-internal total VMT to determine the total VMT associated with the proposed project. The total VMT was then divided by the population of the proposed project to determine a VMT per capita associated with the proposed project.

VMT Thresholds

As discussed above, the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* recommends that lead agencies establish project-specific thresholds for VMT analysis. Per Section 15064.3(b)(3) of the CEQA Guidelines, a lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure.

The VMT per capita average for the SACOG region was calculated using the same methodology used to calculate the proposed project's average VMT per capita. As detailed in Table 4.10-1, the average VMT per capita in the SACOG region is 23.2. Using the State's guidance, absent other substantial evidence, thresholds should be set 15 percent below the average VMT per capita. Thus, the threshold for the SACOG region is 19.7 VMT per capita.

Cumulative VMT Analysis

Increasingly, the comparison of Existing and Existing Plus Project VMT analysis scenarios has been recognized to result in an evaluation of the worst-case scenario. Such a result is a byproduct of the fact that cumulative analyses include additional developments, which typically have the effect of shortening trips, as the proximity of complementary land uses improves with increasing densities (i.e., houses are closer to shopping opportunities, houses are closer to employment opportunities, etc.). According to State guidelines, when a significant impact is determined under Existing Plus Project conditions, a Cumulative analysis may be required. Therefore, a Cumulative VMT analysis was also performed for the proposed project, the details of which are discussed under Impact 4.10-6.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to transportation is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.10-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and

pedestrian facilities. Based on the analysis below, the impact is *less than significant*.

The proposed project would include subdivision of the 279.3-acre project site into 440 lots, new entry points along Raymer Way, connection to the existing Camden at Somerset Ranch subdivision through an extension of Edington Drive, a new connection to Thornburg Way, and associated improvements. The proposed project's internal circulation system would consist of several drive aisles with circulation to all residences within the subdivision. The project would include construction of five-foot attached sidewalks and three-foot gutters along the majority of internal streets. Six-foot margins along the sides of each street would allow for street parking. Additionally, 0.45-acre of the project site would be designated green infrastructure which would include enhanced landscaped areas and trails with connection to surrounding parks. The following discussions evaluate whether the proposed project would result in inconsistencies with the City's LOS standard or impacts from modifying Centennial Drive or to existing or planned pedestrian, bicycle, or transit facilities and services within the project vicinity.

Consistency with LOS Standard

As detailed above, as a result of SB 743, local jurisdictions may no longer rely on vehicle LOS and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA. However, because the City considers LOS a matter of General Plan policy, a nexus exists for requiring a project to ensure General Plan consistency through project conditions of approval. Per General Plan Policy C.1.2, the City seeks to maintain operations on all roadways and intersections at LOS D or better, including peak travel times, unless maintaining LOS D would, in the City's judgement, be infeasible and/or conflict with the achievement of other goals. For the purposes of the TIA's analysis, inconsistency with applicable LOS standards under Existing Plus Project conditions is determined if a roadway or signalized intersection previously operating at an acceptable LOS deteriorates to an unacceptable level or if the volume-to-capacity ratio (v/c ratio) increases as a result of the proposed project by more than 0.05 at a roadway or signalized intersection already operating at unacceptable LOS. For unsignalized intersections, inconsistency with applicable LOS standards is determined if the intersection under Existing Plus Project conditions deteriorates from an acceptable to an unacceptable LOS or if the intersection meets a traffic signal warrant and would have an increase in delay by more than five seconds.

The TIA analyzed 17 roadway segments in the project vicinity and concluded LOS of 15 segments under Existing Plus Project conditions would continue at acceptable conditions. The remaining two roadway segments (Sunrise Boulevard, between Douglas Road and SR 16; and Grant Line Road, between Raymer Way and Douglas Road) already operate below the applicable standard at LOS F and E, respectively. Under Existing Plus Project conditions, neither segments' v/c ratio would increase by more than 0.05. Therefore, the TIA determined LOS of all roadway segments following implementation of the proposed project would be consistent with applicable LOS standards.

However, out of the 22 intersections analyzed in the TIA, two intersections would operate at unacceptable LOS under Existing Plus Project conditions: the SR 16/Grant Line Road intersection and the Grant Line Road/Raymer Way intersection (see Table 4.10-2).

Table 4.10-2
Existing Plus Project Unacceptable Intersection LOS

ID	Intersection	Control	Peak Hour	Delay (sec)	LOS
Existing Conditions					
17	SR 16/Grant Line Road	Signal	AM	90.9	F
			PM	108.5	F
20	Grant Line Road/Raymer Way	SSSC	AM	2.2 (37 EB)	E
			PM	0.7 (28.1 EB)	D
Existing Plus Project					
17	SR 16/Grant Line Road	Signal	AM	103.7	F
			PM	120.4	F
20	Grant Line Road/Raymer Way	SSSC	AM	146.3 (606 EB)	F
			PM	84.1 (545 EB)	F

Source: Kimley-Horn. Traffic Impact Analysis for The Preserve, City of Rancho Cordova, California. November 4, 2020.

Therefore, to ensure the aforementioned intersection's consistency with the City's acceptable LOS standard set forth in the General Plan, the City shall require the project, if approved, to implement the following conditions of approval:

- The applicant shall pay a fair share of required improvements to the the SR 16/Grant Line Road intersection through payment of City transportation fees; and
- The applicant shall convert the Grant Line Road/Raymer Way intersection from side-street-stop-controlled to signalized along the existing Grant Line Road alignment.

Satisfying such conditions of approval would ensure all intersections identified in the TIA operate in accordance with General Plan Policy C.1.2 under Existing Plus Project conditions.

Centennial Drive

The Centennial Drive Memorandum prepared for the proposed project assessed the potential impacts that could result from modifying Centennial Drive, a future roadway included in the General Plan and depicted in the Circulation Element's Circulation Plan with Roadway System and Sizing map (see Figure 4.10-2). If constructed as portrayed, Centennial Drive would consist of four lanes and run through the project site in an east-west direction. As noted in the Circulation Element, the City's future circulation system, of which Centennial Drive would be a part, has been designed to create a complete transportation network that links together all parts of the City's Planning Area through a variety of interconnected and overlapping modes and travel options.

However, as part of the proposed project's General Plan Amendment (GPA), the stretch of Centennial Drive previously planned to run through the project site would not be constructed. Therefore, the Centennial Drive Memorandum evaluates the potential effects of eliminating the portion of Centennial Drive that would have run through the project site.

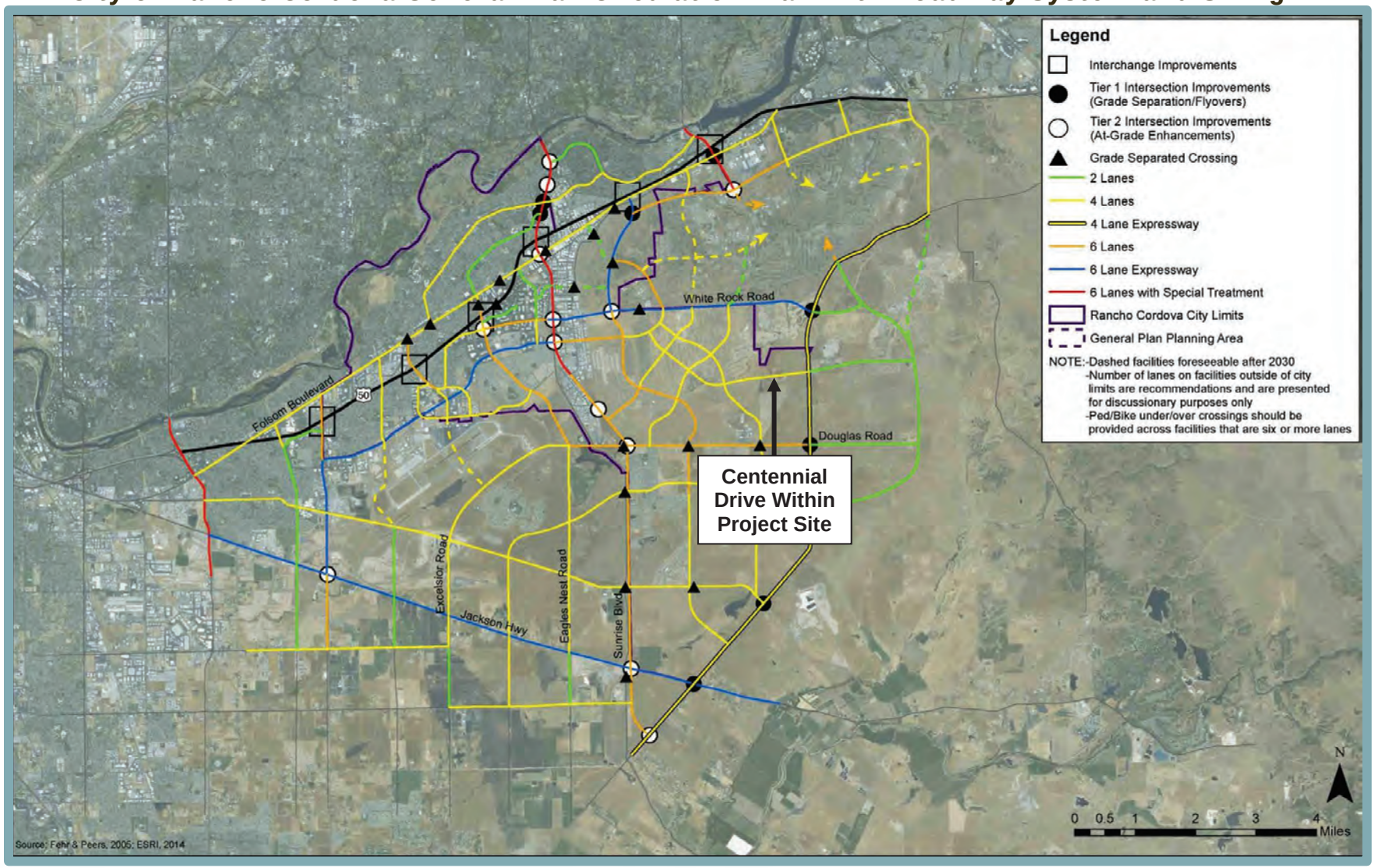
As part of analyzing the effects of modifying Centennial Drive, two versions of the City's TDM were run to predict 2035 traffic volumes along project vicinity roadways, the first version of the model without modifications to Centennial Drive and the second version with the stretch of Centennial Drive between Americanos Boulevard and Grant Line Road removed. The resulting volumes from the two model runs were compared. The largest daily volume increase as a result of modifying Centennial Drive would occur along White Rock Road, immediately west of Grant Line Road. The largest daily volume decrease would be along the stretch of Centennial Drive that would still be constructed, immediately west of Americanos Boulevard. Minimal daily volume differences would occur along Sunrise Boulevard and Rancho Cordova Parkway. As shown in Figure 4.10-3, volumes are expected to fluctuate between increasing by almost 6,500 daily vehicles along White Rock Road to decreasing by 6,600 daily vehicles along Centennial Drive. However, the Centennial Drive Memorandum concluded the change in daily volumes would not noticeably affect operations along any roadway segment.

Additionally, the Centennial Drive Memorandum included an LOS analysis for select roadways in the vicinity of Centennial Drive, both with and without the Centennial Drive connection between Americanos Boulevard and Grant Line Road. Based on the evaluation, roadways are expected to operate in accordance with applicable LOS standards, both with and without the Centennial Drive connection between Americanos Boulevard and Grant Line Road. The results of the LOS analysis are included in Table 4.10-3. Furthermore, the Centennial Drive Memorandum included a follow-up LOS analysis of previously analyzed roadway segments from the Rio del Oro Specific Plan EIR[9] (see Table 4.10-4) to determine to what extent modifying Centennial Drive would affect the previously evaluated roadways' consistency with applicable LOS standards. The evaluation included analysis of SR 16. Based on the results (see Table 4.10-5), the modification of Centennial Drive would not result in any new inconsistencies with applicable LOS standards from what was previously identified in the Rio del Oro Specific Plan EIR.

Finally, the Centennial Drive Memorandum included a VMT assessment that specifically addresses the impact of modifying Centennial Drive (potential VMT impacts from implementing the proposed project are discussed in further detail under Impact 4.10-2). The assessment included the regional (SACOG) VMT for the model runs with and without the Centennial Drive extension and found that VMT was reduced by 6,820 without the Centennial Drive extension; however, it should be noted that the difference reflects a 0.008-percent difference in regional VMT. The model used to perform the analysis includes an iterative process for assigning traffic to the model network. As such, an inherent randomness was introduced, and, thus, the difference should be considered as indication that the removal of Centennial Drive would result in a negligible difference to regional VMT.

[9] EDAW, Inc. *Rio del Oro Specific Plan Project Final EIR*. June 24, 2010.

Figure 4.10-2
City of Rancho Cordova General Plan Circulation Plan with Roadway System and Sizing



Source: City of Rancho Cordova. City of Rancho Cordova General Plan. June 26, 2006.

Figure 4.10-3
2035 Daily Volume Change Without Centennial Drive

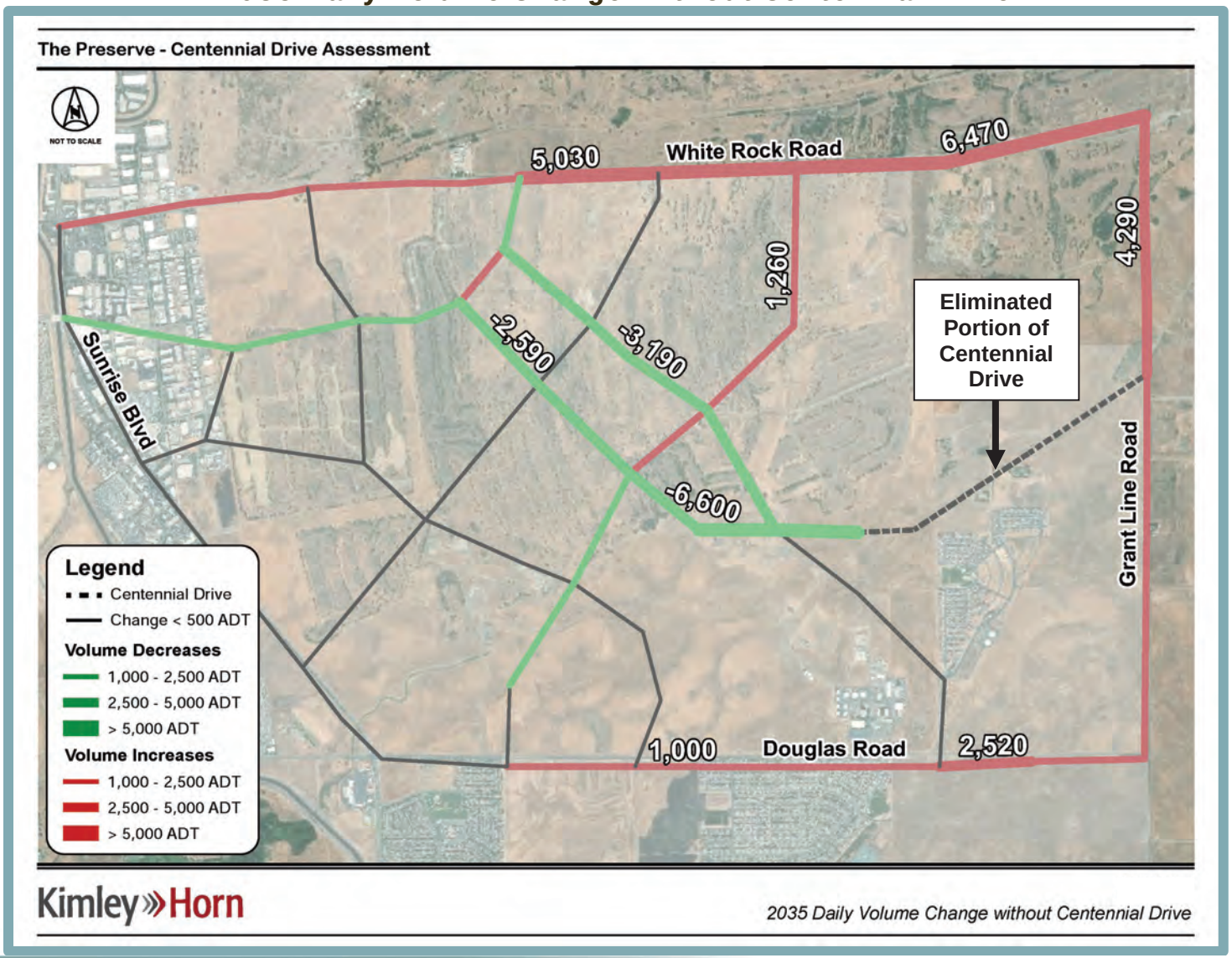


Table 4.10-3
2035 Centennial Drive Modification LOS Analysis

ID	Roadway	Segment	Daily Volume	V/C Ratio	LOS
With Centennial Drive					
1	Douglas Road	Mather Blvd. to Sunrise Blvd.	36,880	0.68	B
2	Douglas Road	Rancho Cordova Pkwy. to Americanos Blvd.	17,550	0.49	A
3	Douglas Road	Americanos Blvd. to Grant Line Road	15,770	0.44	A
4	White Rock Road	Sunrise Blvd. to Rancho Cordova Pkwy.	31,510	0.58	A
5	White Rock Road	Americanos Blvd. to Grant Line Road	22,940	0.42	A
6	White Rock Road	Grant Line Road to Prairie City Road	59,900	0.83	D
7	Sunrise Blvd.	White Rock Road to Douglas Road	47,780	0.88	C
8	Grant Line Road	White Rock Road to Douglas Road	48,230	0.67	B
9	Rancho Cordova Pkwy.	White Rock Road to Rio Del Oro Pkwy.	33,170	0.61	B
10	Rancho Cordova Pkwy.	Rio Del Oro Pkwy. To Douglas Road	17,680	0.49	A
11	Americanos Blvd.	International Road to Centennial Drive	11,170	0.62	B
12	Americanos Blvd.	Centennial Drive to Douglas Road	10,070	0.56	A
Without Centennial Drive					
1	Douglas Road	Mather Blvd. to Sunrise Blvd.	36,840	0.68	B
2	Douglas Road	Rancho Cordova Pkwy. to Americanos Blvd.	18,230	0.51	A
3	Douglas Road	Americanos Blvd. to Grant Line Road	17,250	0.48	A
4	White Rock Road	Sunrise Blvd. to Rancho Cordova Pkwy.	32,080	0.59	A
5	White Rock Road	Americanos Blvd. to Grant Line Road	27,500	0.51	A
6	White Rock Road	Grant Line Road to Prairie City Road	52,540	0.73	C
7	Sunrise Blvd.	White Rock Road to Douglas Road	47,760	0.88	C
8	Grant Line Road	White Rock Road to Douglas Road	51,600	0.72	C
9	Rancho Cordova Pkwy.	White Rock Road to Rio Del Oro Pkwy.	33,170	0.61	B
10	Rancho Cordova Pkwy.	Rio Del Oro Pkwy. To Douglas Road	17,790	0.49	A
11	Americanos Blvd.	International Road to Centennial Drive	8,330	0.46	A
12	Americanos Blvd.	Centennial Drive to Douglas Road	10,240	0.57	A

Source: Kimley-Horn. Memorandum: The Preserve Centennial Drive Considerations. August 16, 2021.

Table 4.10-4
LOS of Rio del Oro Specific Plan EIR Roadways Without Modification to Centennial Drive

ID	Roadway	From	To	Lanes	Daily Volume	LOS Standard	V/C Ratio	LOS	LOS Standard
1	SR 16	Excelsior Rd.	Eagles Nest Road	2	12,900	18,000	0.72	C	D
2	SR 16	Sunrise Blvd.	Grant Line Road	2	17,500	18,000	0.97	E	E
3	Kiefer Blvd.	Grant Line Rd.	SR 16	2	2,100	17,000	0.12	B	E
4	Mather Blvd.	Femoyer St.	Douglas Road	2	20,500	18,000	1.14	F	D
5	Douglas Rd.	Mather Blvd.	Sunrise Blvd.	2	25,400	18,000	1.41	F	D
7	International Dr.	White Rock Rd.	Zinfandel Dr.	4	17,800	36,000	0.49	A	D
8	International Dr.	Zinfandel Dr.	Kilgore Road	4	14,200	36,000	0.39	A	D
9	White Rock Rd.	Zinfandel Dr.	Sunrise Blvd.	6	45,100	54,000	0.84	D	D
10	White Rock Rd.	Sunrise Blvd.	Grant Line Road	2	20,900	18,000	1.16	F	D
11	Zinfandel Dr.	White Rock Rd.	International Dr.	6	23,200	54,000	0.43	A	D
12	Sunrise Blvd.	Gold Country Blvd.	Coloma Rd.	6	92,500	54,000	1.71	F	D
13	Sunrise Blvd.	Coloma Rd.	US 50	6	102,500	54,000	1.90	F	D
14	Sunrise Blvd.	US 50	Folsom Blvd.	6	82,900	54,000	1.54	F	D
15	Sunrise Blvd.	Folsom Blvd.	White Rock Rd.	6	77,300	54,000	1.43	F	D
16	Sunrise Blvd.	White Rock Rd.	Douglas Road	4	65,600	36,000	1.82	F	D
18	Sunrise Blvd.	SR 16	Grant Line Road	2	22,400	18,000	1.24	F	E
19	Grant Line Road	White Rock Rd.	Douglas Road	2	10,500	18,000	0.58	A	D
20	Grant Line Road	Douglas Rd.	SR 16	2	7,800	18,000	0.43	A	D
21	Grant Line Road	SR 16	Sunrise Blvd.	2	6,200	18,000	0.34	A	E
22	Douglas Rd.	Sunrise Blvd.	Jaeger Rd.	4	29,700	36,000	0.83	D	D
23	Douglas Rd.	Americanos Blvd.	Grant Line Road	2	6,500	18,000	0.36	A	D
24	Sunrise Blvd.	Douglas Rd.	Keifer Blvd.	4	39,900	36,000	1.11	F	D
25	Sunrise Blvd.	Keifer Blvd.	SR 16	4	33,800	36,000	0.94	E	D

Source: Kimley-Horn. Memorandum: The Preserve Centennial Drive Considerations. August 16, 2021.

Table 4.10-5
LOS of Rio del Oro Specific Plan EIR Roadways with Modification to Centennial Drive

ID	Roadway	From	To	Lanes	Daily Volume	Volume Difference	V/C Ratio	LOS	LOS Standard
1	SR 16	Excelsior Rd.	Eagles Nest Road	2	12,950	50	0.72	C	D
2	SR 16	Sunrise Blvd.	Grant Line Road	2	17,550	50	0.98	E	E
3	Kiefer Blvd.	Grant Line Rd.	SR 16	2	2,100	0	0.12	B	E
4	Mather Blvd.	Femoyer St.	Douglas Road	2	20,590	90	1.14	F	D
5	Douglas Rd.	Mather Blvd.	Sunrise Blvd.	2	25,350	-50	1.41	F	D
7	International Dr.	White Rock Rd.	Zinfandel Dr.	4	14,800	-3,000	0.41	A	D
8	International Dr.	Zinfandel Dr.	Kilgore Road	4	13,700	-500	0.38	A	D
9	White Rock Rd.	Zinfandel Dr.	Sunrise Blvd.	6	45,500	400	0.84	D	D
10	White Rock Rd.	Sunrise Blvd.	Grant Line Road	2	27,370	6,470	1.52	F	D
11	Zinfandel Dr.	White Rock Rd.	International Dr.	6	22,700	-500	0.42	A	D
12	Sunrise Blvd.	Gold Country Blvd.	Coloma Rd.	6	92,440	-60	1.71	F	D
13	Sunrise Blvd.	Coloma Rd.	US 50	6	102,470	-30	1.90	F	D
14	Sunrise Blvd.	US 50	Folsom Blvd.	6	82,960	60	1.54	F	D
15	Sunrise Blvd.	Folsom Blvd.	White Rock Rd.	6	77,450	150	1.43	F	D
16	Sunrise Blvd.	White Rock Rd.	Douglas Road	4	65,540	-60	1.82	F	D
18	Sunrise Blvd.	SR 16	Grant Line Road	2	22,450	50	1.25	F	E
19	Grant Line Road	White Rock Rd.	Douglas Road	2	15,290	4,790	0.85	D	D
20	Grant Line Road	Douglas Rd.	SR 16	2	8,100	300	0.45	A	D
21	Grant Line Road	SR 16	Sunrise Blvd.	2	6,210	10	0.35	A	E
22	Douglas Rd.	Sunrise Blvd.	Jaeger Rd.	4	30,500	800	0.85	D	D
23	Douglas Rd.	Americanos Blvd.	Grant Line Road	2	9,020	2,520	0.50	A	D
24	Sunrise Blvd.	Douglas Rd.	Keifer Blvd.	4	40,020	120	1.11	F	D
25	Sunrise Blvd.	Keifer Blvd.	SR 16	4	33,870	70	0.94	E	D

Source: Kimley-Horn. Memorandum: The Preserve Centennial Drive Considerations. August, 2021.

Based on the above information, the modification of Centennial Drive as depicted in the General Plan's Circulation Element would not significantly impact the roadway network. Therefore, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, and the project would result in a less-than-significant impact.

Pedestrian, Bicycle, and Transit Facilities

Due to the rural nature of the project site, existing bicycle and pedestrian facilities are minimal in the immediate vicinity of the project site. Raymer Way does not include bike lanes or sidewalks. The small stretch of Americanos Boulevard that connects to Edington Drive south of the project site includes bike lanes along both sides of the roadway and also features a sidewalk on the northbound side. Nevertheless, the proposed project includes bicycle and pedestrian facilities, consistent with policies contained in the General Plan's Circulation Element. The proposed project would also implement the Morrison Creek Trail, which was identified in the City's Bicycle Master Plan as a future improvement in the project vicinity and would generally be located to the north of the project site, where the Bicycle Master Plan previously planned for a Class I Bike Path to be located. The Morrison Creek Trail would start at Grant Line Road and generally proceed in an east-to-west direction along Raymer Way before connecting to the north of the project site's neighborhood parks, where the trail would then shift in a southern direction and end at the project site's southwestern corner. As previously discussed, the project site's internal street would also include sidewalks, consistent with applicable standards.

Transit services would not be available within the project site; however, from the proposed project's extension of the Edington Drive stub street, the nearest SRT bus stop would be only 1.5 miles to the southeast, near the Borderlands Drive/Canyonlands Drive intersection, providing residents of the proposed project access to SRT Route 175.

Based on the above information, the proposed project would not conflict with any programs, plans, ordinances, or policies addressing transit, bicycle, or pedestrian facilities, and a less-than-significant impact would occur.

Conclusion

Based on the above information, the aforementioned conditions of approval would ensure the proposed project is consistent with applicable LOS standards; the modification of Centennial Drive as depicted in the General Plan's Circulation Element would not create inconsistencies with the roadway network LOS standards; and the proposed project's bicycle and pedestrian facilities would be consistent with policies contained in the General Plan's Circulation Element and the long-range vision depicted in the City's Bicycle Master Plan. Additionally, the proposed project would be located only 1.5 miles from the nearest SRT bus stop. Therefore, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.10-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) under Existing Plus Project conditions. Based on the analysis below, even with implementation of mitigation, the impact is *significant and unavoidable*.

Section 15064.3 of the CEQA Guidelines states that generally, VMT is the most appropriate measure for evaluating the transportation impacts of a project. Per Section 15064.3(b), VMT exceeding an applicable threshold of significance may indicate a significant impact. As mentioned above, for residential development projects requiring a detailed evaluation of the VMT produced by the project, consistent with OPR guidance, this study established the threshold for determination of a significant VMT impact as 15 percent below the regional average VMT per capita, which is 19.7 VMT per capita for the project region. Residential development projects exceeding the threshold would be considered to result in a significant impact. According to the VMT Evaluation prepared for the proposed project, implementation of the project's 440 residential units would result in a VMT per capita of 23.3 (see Table 4.10-6). Thus, the proposed project would exceed the applicable threshold of 19.7.

Table 4.10-6
Project VMT Per Capita

Trip Type	Internal VMT	External VMT	Total VMT
Origin	15,157	610	15,767
Destination	14,677	604	15,281
Total	29,834	1,214	31,048
Total Population			1,333
VMT Per Capita			**23.3**
Threshold			**19.7**
Exceeds Threshold?			**Yes**

Source: Kimley-Horn. The Preserve, Vehicle Miles Traveled (VMT) Evaluation. August 16, 2021.

As detailed in the VMT Evaluation, mitigation strategies were considered to reduce the project's VMT per capita below the applicable threshold. However, as the project site is located in a developing area with only vacant land and other residential communities, the area offers only limited alternatives to driving for work or shopping needs and restrictions are not placed on parking. In addition, the area's limited access to transit and the inability to implement strategies related to employment and commuting further restricts the proposed project's ability to reduce VMT per capita. Without sufficient mitigation, the impact would be considered ***significant***.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact but not to a less-than-significant level. Therefore, the impact would remain *significant and unavoidable*.

4.10-2(a) *Prior to approval of Improvement Plans, the project applicant shall include in the Improvement Plan submittal a Trail System Plan detailing the applicant's construction of a portion of the regional trail system in the vicinity of the project site. The Trail System Plan shall be subject to*

review and approval by the City of Rancho Cordova Community Development Department.

4.10-2(b) *Prior to the recording of a Final Map, the project applicant shall pay a fair share contribution to provide monetary support for the City's transportation services, as determined by the City of Rancho Cordova Community Development Department. The charges for residential and non-residential development will fund these transportation services as determined appropriate by the City Council. Supplemental transportation services may include, but are not limited to, the following:*

- *Transit Shuttle – shuttle for residents and/or employees between residential areas, employment centers, shopping and service centers and light rail stations and/or other public transit options;*
- *Guaranteed Ride Home – free taxi rides and rental cars for ride sharers in case of an emergency;*
- *Transit Subsidies – financial assistance to encourage residents and employees to use transit or other alternative transportation measures;*
- *Transportation Plans for employers and/or resident groups – plans which guide employers and resident groups on the implementation of trip reduction programs, such as ride share matching or other similar programs;*
- *Education Programs – various programs such as education of transit options, home office set up, alternative commute opportunities;*
- *Infrastructure Support – additional bike racks and lockers, transportation alternative and ride share informational boards/kiosks, and transit facilities;*
- *Transportation Coordinator Training and Support – instruction in mobility (transportation alternatives) for residential groups and work site coordinators; and*
- *Bicycle and Alternative Fuel Vehicle Incentives – incentives for purchasing new bicycles or alternative fuel vehicles.*

4.10-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Based on the analysis below, the impact is *less than significant*.

The proposed project would include new entry points along Raymer Way, connection to the existing Camden at Somerset Ranch subdivision through an extension of Edington Drive, a new connection to Thornburg Way, and associated improvements. The proposed project's internal circulation system would consist of several drive aisles with circulation to all residences within the subdivision. The project would include construction of sidewalks and gutters per applicable standards along the internal streets. Six-foot margins along the sides of each street would allow for street parking. Additionally, 0.45-acre of the project site would be designated green infrastructure

which would include enhanced landscaped areas and trails with connection to surrounding parks.

The proposed project's street frontage, roadways, and access points would be designed in accordance with all applicable standards established in the City's Municipal Code. Such standards would include, but not be limited to, Section 12.03.020, which includes requirements related to street improvements; Section 12.12.010 and Section 12.12.020, which pertain to prohibited obstructions at private driveways, public streets, and public street intersections; Section 22.25.050, which establishes provisions for filing a complete application for a tentative map; Section 22.110.040 and Section 22.110.045, which include design standards for primary and minor residential streets; and Section 23.141.020, which pertains to major design review requirements for single-family subdivisions. As such, all designs of the proposed project related to transportation would be required to meet City regulations, which would ensure the proposed project does not substantially increase danger from hazardous roadway design features.

Additionally, the proposed project, through the City's approval of a General Plan Amendment and Rezone, would be compatible with land uses surrounding the site. As such, the project would not be anticipated to increase hazards through incompatible uses. While equipment and vehicles related to construction activities would be present during the construction period of the project, such vehicles and equipment would only be temporarily on-site and would be clearly marked by warning signs and barriers to prevent hazardous interactions with members of the public.

Based on the above information, the proposed project would not conflict with any design standards protecting against transportation-related hazards, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.10-4 Result in inadequate emergency access. Based on the analysis below, the impact is *less than significant*.

As mentioned above, the proposed project's street frontage, roadways, and access points would be required to be designed in accordance with all applicable standards established in the City's Municipal Code. Such standards would include, but not be limited to, Section 22.110.040 and Section 22.110.045, which include standards related to street design of primary and minor residential streets such that emergency vehicles and police patrol would not be compromised from adequately accessing a residential subdivision. As such, all designs of the proposed project related to transportation and emergency access would be required to meet City standards and regulations.

The proposed project would include two entry points from Raymer Way, as well as connection to the existing Camden at Somerset Ranch subdivision by way of an extension of Edington Drive and a new connection to Thornburg Way. The streets would be between 32 and 50 feet wide (curb to curb), which would allow for emergency

vehicle access within the minimum 20-foot street width requirement. The internal circulation system would consist of several drive aisles with circulation to all residences within the subdivision.

Concerns brought forth in the comment letters and verbal comments on the scope of the EIR during the Notice of Preparation (NOP) public review period included concerns related to an increase in emergency response times due to increased traffic delays and congestion as a result of implementation of the proposed project. As discussed under Impact 4.10-1 and Impact 4.10-5, the project applicant, through City-required conditions of approval, would be required to construct improvements to various intersections in the project vicinity as part of the proposed project that would ensure all intersections identified in the TIA operate in accordance with General Plan Policy C.1.2. Furthermore, as discussed in Chapter 4.9, Public Services and Utilities, of this EIR, under Impact 4.9-1, the Sacramento Metropolitan Fire District (SMFD) has a response time goal of five minutes or less for 80 percent of calls in the City. The SMFD currently meets this goal, and the response time goal is anticipated to be feasible for servicing the proposed project given the proximity of the project site to Station 68, located 2.8 miles southwest of the project site. Additionally, as discussed under Impact 4.9-2 of this EIR, the project applicant would be required to pay the City's applicable Community Facility Fees, which are used to fund new and expanded public service facilities, including police facilities, within the City's Planning Area. Payment of the Community Facility Fees would ensure that adequate police protection facilities are available to serve the project. Staff at the Rancho Cordova Police Department have confirmed that, given payment of applicable development impact fees, impacts related to police protection are not anticipated. Finally, as previously mentioned, the project applicant would be required to comply with the City's Municipal Code to ensure that emergency vehicles and police patrol would not be compromised from adequately accessing a residential subdivision. Altogether, the proposed project would not result in inadequate emergency access or an increase in emergency response times due to increased traffic delays and congestion.

Based on the above information, the proposed project would not hinder emergency access to the site to the extent that access would be deemed inadequate, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

4.10-5 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) under Cumulative Plus Project conditions. Based on the analysis below, the cumulative impact is *less than significant*.

As cumulative development occurs within the City of Rancho Cordova in accordance with the City's General Plan, traffic volumes along local roadways would increase relative to existing conditions, potentially resulting in impacts to roadway facilities along US 50 and City intersections. However, as the proximity of complementary land uses improves through increased density, shortened trips typically result as a byproduct. The VMT Evaluation prepared for the proposed project included a VMT per capita analysis of Cumulative Plus Project conditions. As shown in Table 4.10-7, the proposed project would result in a VMT per capita of 17.1 under such conditions, which is below the applicable threshold of 19.7 VMT per capita. Thus, the proposed project would not exceed the applicable threshold under Cumulative Plus Project conditions.

Table 4.10-7
Cumulative Project VMT Per Capita

Trip Type	Internal VMT	External VMT	Total VMT
Origin	10,943	532	11,475
Destination	10,816	528	11,343
Total	21,759	1,059	22,828
Total Population			1,333
VMT Per Capita			**17.1**
Threshold			**19.7**
Exceeds Threshold?			**No**

Source: Kimley-Horn. The Preserve, Vehicle Miles Traveled (VMT) Evaluation. November 4, 2020.

Based on the above information, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) under Cumulative Plus Project conditions, and the proposed project's cumulative impact would be ***less-than-significant***.

Mitigation Measure(s)

None required.

5. Statutorily Required Sections

5. STATUTORILY REQUIRED SECTIONS

5.1 INTRODUCTION

The Statutorily Required Sections chapter of the EIR includes discussions regarding those topics that are required to be included in an EIR, pursuant to CEQA Guidelines, Section 15126.2. The chapter includes a discussion of the proposed project's potential to result in growth-inducing impacts; the cumulative setting analyzed in this EIR; significant irreversible environmental changes; and significant and unavoidable impacts caused by the proposed project.

5.2 GROWTH-INDUCING IMPACTS

State CEQA Guidelines section 15126.2(d) requires an EIR to evaluate the potential growth-inducing impacts of a proposed project. Specifically, an EIR must discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or by encouraging and/or facilitating other activities that could induce growth. Examples of projects likely to have growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped.

The CEQA Guidelines are clear that while an analysis of growth-inducing effects is required, it should not be assumed that induced growth is necessarily significant or adverse. This analysis examines the following potential growth-inducing impacts related to implementation of the proposed project and assesses whether these effects are significant and adverse (see CEQA Guidelines, Section 15126.2[d]):

1. Foster population and economic growth and construction of housing.
2. Eliminate obstacles to population growth.
3. Affect service levels, facility capacity, or infrastructure demand.
4. Encourage or facilitate other activities that could significantly affect the environment.

Foster Population and Economic Growth and Construction of Housing

As discussed in Chapter 4.7, Land Use and Planning/Population and Housing, of this EIR, development of the site with 440 single-family residential units would increase the available housing within the Rancho Cordova area, which would be expected to increase population in the area. Based on socioeconomic characteristics of developments in the immediate vicinity of the project site, the proposed project is projected to result in a potential population increase of 1,333 residents. The City has anticipated buildout of the Grant Line West Planning Area with a total of 3,393 dwelling units, 9,043 residents, 502,893 square feet (sf) of commercial uses, and 143,684 sf of office uses. Given that the Grant Line West Planning Area is primarily vacant, the population growth resulting from the proposed project would be within the Grant Line West Planning Area population estimates. As noted on page 4.7-15 of Chapter 4.7, the proposed project would be included within the growth projections of the City of Rancho Cordova conducted by the Sacramento Area Council of Governments (SACOG) for the 2020 Metropolitan Transportation

Plan/Sustainable Communities Strategy (MTP/SCS). Because buildout of the City, including the proposed project, has been anticipated in regional development forecasts, implementation of the proposed project would not result in unplanned population growth within the project area. Furthermore, the infrastructure included in the proposed project would be sized to accommodate buildout of the proposed project.

While construction of the proposed project would result in increased construction employment opportunities, which could potentially result in increased permanent population and demand for housing in the vicinity of the project site, employment patterns of construction workers is such that construction workers would not likely, to any significant degree, relocate their households as a result of the construction-related employment opportunities associated with the proposed project.

Although the proposed project would provide short-term employment opportunities, which would likely be filled from the local employee base, with the possible exception of a few household and landscape maintenance jobs, permanent jobs would not be created by the proposed project. Therefore, the proposed project would not result in long-term employment growth in the area.

Appendix G of CEQA Guidelines has been recently amended to clarify that unplanned population growth would be considered a potentially significant impact. However, growth that is planned, and the environmental effects of which have been analyzed in connection with a land use plan or a regional plan, should not by itself be considered an impact. Consequently, the proposed project would result in population growth of the Grant Line West Planning Area, but such growth would be within the buildout projections for the Grant Line West Planning Area, and within growth projections for unincorporated areas within the City of Rancho Cordova. Thus, while the project would foster population and economic growth, such growth would be similar to what has been previously anticipated for the project region, and a less-than-significant impact related to population and economic growth would occur.

Eliminate Obstacles to Population Growth

The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect. A physical obstacle to growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that are not currently provided with these services, would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

As discussed in Chapter 4.9, Public Services and Utilities, of this EIR, the proposed project would include connection of new eight-inch water mains to an existing 10-inch water main located within Edington Drive, and new or expanded regional infrastructure would not be required. Water conveyance systems needed for the proposed project would be constructed on-site, and would be financed by the project applicant. Consequently, the construction of on-site water infrastructure would not be anticipated to result in elimination of obstacles to population growth.

As also discussed in Chapter 4.9 of this EIR, the proposed project would include two new on-site sewer connections to the existing eight-inch sewer lines within Edington Drive and Thornberg Way. The existing sewer lines connect to the Sacramento Regional County Sanitation District (SRCSD) interceptor system, which carries wastewater directly to the Sacramento Regional Wastewater Treatment Plant (SRWTP). Per the Sewer Study prepared for the proposed project, wastewater generated from the proposed project (0.136 million gallons per day) would constitute

only 0.3 percent of the wastewater treatment demand at buildout of the City's planning area. The wastewater treatment projections used in the General Plan were determined based on population growth estimates, and land use designations were not considered. As such, even though the proposed project includes a change in land use designation, the project would be included as part of the City's planned regional growth estimated. Because City wastewater conveyance facilities currently exist in the project area and would not require the construction of new or expanded infrastructure due to development of the proposed project, the proposed project would not eliminate obstacles to growth that were not previously anticipated for the area.

In regard to roadway improvements, the proposed project would eliminate the possibility of an east-west extension of Centennial Drive through the project site, which is depicted in the Circulation Element of the City's Circulation Plan. The removal of this planned roadway improvement could constitute an obstacle to population growth; however, the proposed project would also include several roadway improvements, including the development of new entry points along Raymer Way, an extension of Edington Drive, a new connection to Thornburg Way, and several new drive aisles which would provide internal circulation with access to all residences within the proposed subdivision. While the proposed roadway extensions would eliminate physical obstacles to undeveloped areas, the areas are already planned for development. As discussed in Chapter 4.7, Land Use and Planning/Population and Housing, of this EIR, the City has anticipated buildout of the Grant Line West Planning Area with a total of 3,393 dwelling units, 9,043 residents, 502,893 sf of commercial uses, and 143,684 sf of office uses. In addition, the SACOG 2020 MTP/SCS has anticipated the addition of 13,421 residential units to the City's housing stock by 2035. Because the surrounding area would result in population growth with or without the proposed project, the extension and construction of the roadways proposed as part of the project would not be considered the elimination of an obstacle to population growth.

Based on the above, the roadway and utility improvements included as part of the proposed project have been generally anticipated by the City and planned for based on regional growth estimates provided by SACOG. Thus, the proposed project would result in a less-than-significant impact in regard to eliminating obstacles to population growth.

Affect Service Levels, Facility Capacity, or Infrastructure Demand

Increases in population that would occur as a result of a proposed project may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental impacts. As discussed in Chapter 4.9, Public Services and Utilities, of this EIR, increased demands for fire and police protection services attributable to the proposed project would necessitate the need for additional resources for the Sacramento Metropolitan Fire District and the Rancho Cordova Police Department. However, the project applicant would be subject to payment of development fees and contribution to tax revenue funds, including the Capital Fire Facilities Fee and the City's applicable Community Facilities Fee. As such, impacts to fire and law enforcement services would be considered fully mitigated with payment of such fees. In addition, wastewater generated by the proposed project could be accommodated by existing wastewater treatment facilities and infrastructure, and existing water supply infrastructure exists to accommodate the domestic and fire flow demands associated with the proposed project.

The landfill that would serve the proposed project has adequate capacity to manage the solid waste generated as a result of the project. Furthermore, mitigation measures set forth in Chapter 4.6, Hydrology and Water Quality, of this EIR would ensure that the proposed project would not create or contribute runoff water that would exceed the capacity of the City's stormwater drainage

systems. Therefore, the proposed project would not increase population such that service levels, facility capacity, or infrastructure demand would require construction of new facilities that could cause significant environmental impacts.

Encourage or Facilitate other Activities That Could Significantly Affect the Environment

This EIR provides a comprehensive assessment of the potential for environmental impacts associated with implementation of the proposed project. Please refer to Chapters 4.1 through 4.10, of this EIR, as well as the attached Initial Study (see Appendix A), which evaluate the potential for impacts from urban development on the project site.

5.3 CUMULATIVE IMPACTS

CEQA Guidelines, Section 15130 requires that an EIR discuss the cumulative and long-term effects of the proposed project that adversely affect the environment. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). "[I]ndividual effects may be changes resulting from a single project or a number of separate projects" (CEQA Guidelines, Section 15355, subd. [a]). "The cumulative impact from several projects is 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" (CEQA Guidelines, Section 15355, subd. [b]).

The need for cumulative impact assessment reflects the fact that, although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the increment may be "cumulatively considerable," and, thus, significant, when viewed together with environmental changes anticipated from past, present, and probable future projects (CEQA Guidelines, Section 15064, subd. [h(1)], Section 15065, subd. [c], and Section 15355, subd. [b]). Accordingly, particular impacts may be less than significant on a project-specific basis but significant on a cumulative basis if their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable. However, it should be noted that CEQA Guidelines, Section 15064, Subdivision (h)(5) states, "[…]the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are significant, any level of incremental contribution is not necessarily deemed cumulatively considerable.

Section 15130(b) of CEQA Guidelines indicates that the level of detail of the cumulative analysis need not be as great as for the project impact analyses, but that analysis should reflect the severity of the impacts and their likelihood of occurrence, and that the analysis should be focused, practical, and reasonable. To be adequate, a discussion of cumulative effects must include the following elements:

> (1) Either (a) a list of past, present and probable future projects, including, if necessary, those outside the agency's control, or (b) a summary of projections contained in an adopted general plan or related planning document, or in a prior certified EIR, which described or evaluated regional or area-wide conditions contributing to the cumulative impact, provide that such documents are reference and made available for public inspection at a specified location;

(2) A summary of the individual projects' environmental effects, with specific reference to additional information and stating where such information is available; and

(3) A reasonable analysis of all of the relevant projects' cumulative impacts, with an examination of reasonable, feasible options for mitigating or avoiding the project's contribution to such effects (Section 15130[b]).

For some projects, the only feasible mitigation measures will involve the adoption of ordinances or regulations, rather than the imposition of conditions on a project-by-project basis (Section 15130[c]). Section 15130(a)(3) states that an EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund the project's fair share of a mitigation measure or measures designed to alleviate the cumulative impact. A discussion of cumulative impacts is provided within in each of the technical chapters of this EIR pursuant to CEQA Guidelines Section 15130.

Cumulative Setting

The lead agency should define the relevant geographic area of inquiry for each impact category (id., Section 15130, subd. [b][3]), and should then identify the universe of "past, present, and probable future projects producing related or cumulative impacts" relevant to the various categories, either through the preparation of a "list" of such projects or through the use of "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (id., subd. [b][1]).

As discussed above, two approaches to identifying cumulative projects and their associated impacts can be used. The "list" approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The "projection" approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the City of Rancho Cordova General Plan. Buildout of the General Plan would include development of several long-range projects, including, but not limited to, the following: the Rio Del Oro Specific Plan, the Sunridge Specific Plan, the Arboretum Specific Plan, the Suncreek Specific Plan, and the Westborough Specific Plan.

Limited situations exist where the geographic setting differs for the analysis of various resource areas. For example, the cumulative geographic setting for the air quality analysis is the Sacramento Valley Air Basin, which is the air basin that the proposed project is located within. Global climate change is, by nature, a cumulative impact. Emissions of greenhouse gases (GHGs) contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change (e.g., sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts). A single project could not generate enough GHG emissions to contribute noticeably to a change in the global average temperature. However, the combination of GHG emissions from a project in combination with other past, present, and future projects could contribute substantially to the world-wide phenomenon of global climate change and the associated environmental impacts. Although the geographical context for global climate change is the Earth, for analysis purposes under CEQA, and due to the regulatory context pertaining to GHG emissions and global climate

change applicable to the proposed project, the geographical context for global climate change in this EIR is limited to the State of California.

In addition, as discussed in Chapter 4.10, Transportation, of this EIR, the cumulative traffic analysis relied on the County of Sacramento's traffic study guidelines and standards established by the Circulation Element of the City of Rancho Cordova's General Plan. Based on the County's requirements, the growth assumptions used in the traffic analysis include cumulative buildout of land uses identified in the Rancho Cordova General Plan, with and without the proposed project. The cumulative setting for the transportation and circulation analysis also includes the anticipated roadway geometry and traffic control anticipated to be present in 2035.

Cumulative impacts are analyzed in each of the technical chapters of this EIR (Chapters 4.1 through 4.10). For those e environmental resource areas that have a different cumulative setting from the general cumulative setting described above, the specific cumulative sitting for that resource area is presented along with the cumulative impact discussion in the relevant resource area chapter of the EIR.

5.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Per CEQA Guidelines Section 15126.2(c), this EIR is required to include consideration of significant irreversible environmental changes that would be caused by the proposed project, should the project be implemented. An impact would be determined to be a significant and irreversible change in the environment if:

- Buildout of the project area could involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of development could generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- Development of the proposed project could involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing and eventual development of the project could result in an unjustified consumption of resources (e.g., the wasteful use of energy).

The proposed project would likely result in, or contribute to, the following significant irreversible environmental changes:

- Conversion of vacant land to a fully built-out residential community, thus precluding alternative land uses in the future; and
- Irreversible consumption of goods and services, such as fire, police, and school services, associated with the future population; and
- Irreversible consumption of energy and natural resources, such as water, electricity, and natural gas, associated with the future residents.

Therefore, the proposed project would likely result in significant irreversible environmental changes, as noted above.

5.5 SIGNIFICANT AND UNAVOIDABLE IMPACTS

According to CEQA Guidelines, an EIR must include a description of those impacts identified as significant and unavoidable should the proposed action be implemented (CEQA Guidelines Section 15126.2[b]). Such impacts would be considered unavoidable when the determination is

made that either mitigation is not feasible or only partial mitigation is feasible such that the impact is not reduced to a level that is less-than-significant.

Based on the analysis provided in Chapters 4.1 through 4.10 of this EIR, the below listed impact was determined to be significant and unavoidable. All other impacts identified in this EIR could be eliminated or reduced to a less-than-significant level by mitigations imposed by the City. The final determination of the significance of impacts and the feasibility of mitigation measures would be made by the City as part of the City's certification action.

4.10-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) under Existing Plus Project conditions.

As noted on page 4.10-26 of Chapter 4.10, Transportation, of this EIR, according to the VMT Evaluation prepared for the proposed project, implementation of the proposed project would result in a VMT per capita of 23.3, which would exceed the applicable threshold of 19.7. Considering the project site is located in a developing area surrounded by only vacant land and other residential communities, the project area offers limited alternatives to driving for work or shopping needs and restrictions are not placed on parking. In addition, the area's limited access to transit and the inability to implement strategies related to employment and commuting further restricts the proposed project's ability to reduce VMT per capita. Implementation of Mitigation Measures 4.10-2(a) and (b) would reduce the impact, but not to a less-than-significant level. Therefore, the impact would remain *significant and unavoidable*.

6. Alternatives Analysis

6. ALTERNATIVES ANALYSIS

6.1 INTRODUCTION

The Alternatives Analysis chapter of the EIR includes consideration and discussion of a range of reasonable alternatives to the proposed project, as required per CEQA Guidelines Section 15126.6. Generally, the chapter includes discussions of the following: the purpose of an alternatives analysis; a reasonable range of project alternatives and their associated impacts in comparison to the proposed project's impacts; and the environmentally superior alternative.

6.2 CEQA REQUIREMENTS FOR ALTERNATIVE ANALYSIS

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to "[…] describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Section 15126.6(f) of CEQA Guidelines states, "The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Section 15126.6(f) of CEQA Guidelines further states:

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

In addition, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project:

- An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6[a]).
- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these

alternatives would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines Section 15126.6[b]).

- The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination […] Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6[c]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison (CEQA Guidelines Section 15126.6[d]).
- If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines Section 15126.6[d]).
- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines Section 15126.6[e][1]).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Project Objectives

Based on the above, reasonable alternatives to the project must be capable of feasibly attaining most of the basic objectives of the project. The following objectives have been submitted by the project applicant:

1. Consolidate the remaining parcels in the Grant Line West Planning Area of the City of Rancho Cordova General Plan in a manner that concentrates development south of Morrison Creek to avoid and minimize potential conflicts with the South Sacramento Habitat Conservation Plan.
2. Develop a residential mixed-density community that is consistent with the General Plan conceptual land use designation for the Grant Line West Planning Area.
3. Develop a residential community that is contiguous to and compatible with adjacent existing development and that provides a range of housing choices.
4. Utilize existing utility capacity for maximum efficiency.
5. Develop a residential community that can provide timely housing to help meet current demand.
6. Contribute to the overall bicycle and pedestrian connectivity of the City by building key components of the regional trail system and providing strong connections for both existing and future residents.
7. Enhance the City's network of parks, trails, and open spaces for the enjoyment of all residents.

6.3 SELECTION OF ALTERNATIVES

The requirement that an EIR evaluate alternatives to the proposed project or alternatives to the location of the proposed project is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained, while reducing the magnitude of, or avoiding, one or more of the significant environmental impacts of the proposed project. Alternatives that are included and evaluated in the EIR must be feasible alternatives. However, the CEQA Guidelines require the EIR to "set forth only those alternatives necessary to permit a reasoned choice." As stated in Section 15126.6(a), an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. The CEQA Guidelines provide a definition for "a range of reasonable alternatives" and thus limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines Section 15126.6(f):

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

First and foremost, alternatives in an EIR must be feasible. In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

Alternatives Evaluated in this EIR

The following alternatives are evaluated in this section:

1. No Project Alternative;
2. Reduced VMT Alternative; and
3. Reduced Footprint Alternative.

Each of the project alternatives is described in detail below, with a corresponding analysis of each alternative's consistency with the project objectives and evaluation of impacts to the existing environment in comparison to the proposed project's identified impacts. While an effort has been made to include quantitative data for certain analytical topics, where possible, qualitative comparisons of the various alternatives to the project are primarily provided. Such an approach to the analysis is appropriate as evidenced by CEQA Guidelines Section 15126.6(d), which states that the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. The analysis evaluates impacts that would occur with the alternatives relative to the significant impacts identified for the proposed project. When comparing the potential impacts resulting from implementation of the foregoing alternatives, the following terminology is used:

- "Fewer" = Less than Proposed Project;
- "Similar" = Similar to Proposed Project; and
- "Greater" = Greater than Proposed Project.

When the term "fewer" is used, the reader should not necessarily equate this to elimination of significant impacts identified for the proposed project. For example, in many cases, an alternative would reduce the relative intensity of a significant impact identified for the proposed project, but the impact would still be expected to remain significant under the alternative, thereby requiring mitigation. In other cases, the use of the term "fewer" may mean the actual elimination of an impact identified for the proposed project altogether. Similarly, use of the term "greater" does not necessarily imply that an alternative would require additional mitigation beyond what has been required for the proposed project. To the extent possible, this analysis will distinguish between the two implications of the comparative words "fewer" and "greater".

See Table 6-1 at the end of this chapter for a comparison of the environmental impacts resulting from the considered alternatives and the proposed project.

1. No Project Alternative

The following section includes an overview providing background related to this alternative, a description of this alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Overview

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6[e]). Analysis of the no project alternative shall:

> "… discuss […] existing conditions […] as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (*Id.*, subd. [e][2]) "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in the property's existing state versus environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build,' wherein the existing environmental setting is maintained. However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (*Id.*, subd. [e][3][B]).

Description of Alternative

For the purposes of this analysis, the No Project Alternative assumes the project site would remain in its current condition. Currently, the southern portion of the site contains two single-family residences and associated outbuildings. An orchard is located within the northeastern portion of the site. A third single-family residence and associated outbuildings exist within the northwestern portion of the site. The remainder of the site consists primarily of non-native grasses, scattered trees, and associated access roads. The site is characterized by moderate rolling hills and flatlands interspersed with seasonal drainage corridors and wetlands. Morrison Creek runs northeast to southwest through the project site.

Because the No Project Alternative would result in the continuance of current on-site conditions, it is reasonable to assume that, for the time being, the site would remain generally undeveloped. However, the alternative's nullification of the proposed project would eventually impact the future

construction of Centennial Drive. As depicted in Figure C-1, Circulation Plan with Roadway System and Sizing, of the Circulation Element of the General Plan, the City has planned for the future construction of Centennial Drive, which would include a roadway portion that runs through the project site. Under the proposed project, the General Plan Amendment (GPA) would amend the General Plan to no longer include the construction of this portion of Centennial Drive. However, without the proposed project, the General Plan would not need to be amended to accommodate the project. Therefore, without the GPA, Centennial Drive would be constructed as depicted in the Circulation Element. Centennial Drive would be expected to accommodate vehicles from land uses in the project site's vicinity, including the Camden at Somerset Ranch residential subdivision to the south, a Teichert Aggregates Aggregate/Asphaltic Concrete site across Grant Line Road to the east, and the eventual Rio Del Oro residential community to the west.

Consistency with Project Objectives

The No Project Alternative would not meet any of the objectives because the alternative would not consolidate the remaining parcels in the Grant Line West Planning Area in a manner that concentrates development south of Morrison Creek to avoid and minimize potential conflicts with the South Sacramento Habitat Conservation Plan; develop a residential mixed-density community that is consistent with the General Plan conceptual land use designation for the Grant Line West Planning Area; develop a residential community that is contiguous to and compatible with adjacent existing development and that provides a range of housing choices; utilize existing utility capacity for maximum efficiency; develop a residential community that can provide timely housing to help meet current demand; contribute to the overall bicycle and pedestrian connectivity of the City by building key components of the regional trail system and providing strong connections for both existing and future residents; or enhance the City's network of parks, trails, and open spaces for the enjoyment of all residents.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions for each impact area addressed within this EIR.

Air Quality and Greenhouse Gas Emissions

Under the No Project Alternative, the project site would remain relatively free of development and would be consistent with the predominantly rural nature currently exhibited by the site. The subdivision of the site into 440 single-family residential lots, construction of neighborhood roadways, implementation of two park areas, and associated improvements would not occur. As a result, Mitigation Measure 4.1-7, which requires the purchase of carbon offsets to address impacts related to GHG emissions associated with the proposed project, would not be required.

However, without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element and would be expected to accommodate vehicles from land uses in the project vicinity, including the Camden at Somerset Ranch residential subdivision to the south, a Teichert Aggregates Aggregate/Asphaltic Concrete site across Grant Line Road to the east, and the eventual Rio Del Oro residential community to the west. While construction of the roadway would result in GHG emissions from construction, the alternative would generate fewer total GHG emissions as compared to the proposed project, as the GHG emissions associated with the proposed project would include emissions from construction and operation of the residences as well as emissions from the new vehicle trips

associated with operation of the residences. Conversely, GHG emissions associated with operation of Centennial Drive would not result in net new emissions, as the roadway would largely accommodate existing traffic and traffic already planned for the area. In fact, the operation of Centennial Drive through the project site has to potential to reduce regional VMT and associated GHG emissions. Therefore, the alternative's impacts related to air quality and GHG emissions would be fewer as compared to the proposed project.

Biological Resources

Under the No Project Alternative, the project site would remain generally undeveloped and would be consistent with the predominantly rural nature currently exhibited by the site, as the currently proposed project's components would not be implemented. Therefore, Mitigation Measures 4.2-1 through 4.2-10 and 4.2-12, which address impacts to on-site biological resources associated with the proposed project, would not be required. However, without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element, and would accommodate existing traffic and traffic already planned for the area in the General Plan. While construction of the roadway could potentially result in impacts to biological resources, the alternative would result in a smaller area of ground disturbance as compared to the proposed project. Therefore, the alternative's impacts related to biological resources would be fewer as compared to the proposed project.

Cultural and Tribal Cultural Resources

Under the No Project Alternative, the project site would remain generally undeveloped Therefore, Mitigation Measures 4.3-2 and 4.3-3(a) through (d) would not be required. However, without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element, and would accommodate existing traffic and traffic planned for the area in the General Plan. While construction of the roadway could potentially result in impacts to unknown buried cultural and tribal cultural resources, should such resources exist, the alternative would result in a smaller area of ground disturbance as compared to the proposed project. Therefore, the alternative's impacts related to cultural and tribal cultural resources would be fewer as compared to the proposed project.

Geology and Soils/Mineral Resources

Under the No Project Alternative, the project site would remain generally undeveloped. Therefore, Mitigation Measures 4.4-3 and 4.4-5, which ensure preparation and compliance with a final geotechnical engineering report and address potential impacts to paleontological resources, would not be required. However, without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element, and would accommodate existing traffic and traffic planned for the area in the General Plan. While construction of the roadway could potentially result in soil erosion or the loss of topsoil due to ground disturbance and grading activities, the alternative would result in a smaller area of ground disturbance as compared to the proposed project. Therefore, the alternative's impacts related to geology, soils, and mineral resources would be fewer as compared to the proposed project.

Hazards and Hazardous Materials

Under the No Project Alternative, the project site would remain generally undeveloped. Therefore, Mitigation Measures 4.5-2(a) through (f) would not be required. However, without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element. Construction of the roadway could potentially result in impacts related to the disturbance of various on-site Recognized Environmental Conditions, as the project site has the

potential to contain an underground storage tank, an unknown underground storage system, and other fuel storage vessels in the northern portions of the project site. The southern portion of the project site contains existing structures built prior to 1980 and 1970 that are likely to contain asbestos-containing building materials and lead-based paints. Additionally, soils in the vicinity of the existing on-site structures have the potential to be contaminated with termiticides. As such, the ground-disturbing activities and potential demolition of on-site structures associated with construction of Centennial Drive could expose the public or environment to a significant hazard through reasonably foreseeable upset and accident conditions involving the release of on-site hazardous materials into the environment. However, the alternative would result in a smaller area of ground disturbance as compared to the proposed project. Therefore, the alternative's impacts related to hazards and hazardous materials would be fewer as compared to the proposed project.

Hydrology and Water Quality

Under the No Project Alternative, the project site would remain generally undeveloped. Therefore, Mitigation Measures 4.6-1(a) and (b), 4.6-2, and 4.6-3 which address potential impacts related to short-term construction-related water quality and ensure compliance with best management practices (BMPs) during construction, would not be required. However, without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element, which could require similar mitigation measures as those to which the proposed project would be subject. While construction of the roadway could potentially result in impacts related to water quality by introducing new impervious surfaces, the alternative would result in a smaller area of ground disturbance as compared to the proposed project. Construction of Centennial Drive would also be required to adhere to all applicable federal, State, and local regulations regarding water quality. Therefore, the alternative's impacts related to hydrology and water quality would be fewer as compared to the proposed project.

Land Use and Planning/Population and Housing

Under the No Project Alternative, the project site would remain generally undeveloped and would be consistent with the predominantly rural nature currently exhibited by the site, as the currently proposed project's components would not be implemented. Considering the existing conditions are consistent with the land use and zoning designation for the site, the GPA and Rezone to accommodate the land uses planned by the proposed project would not be required.

Without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element, accommodating existing traffic and traffic already planned for the area in the General Plan. As construction and operation of the roadway would be consistent with the General Plan, implementation of Centennial Drive would not conflict with a land use plan or induce substantial unplanned population growth in an area, as the roadway would be implemented to accommodate planned population growth. Additionally, Centennial Drive would not physically divide an established community or displace substantial numbers of existing people or housing, as the site is predominantly rural. Therefore, the alternative's impacts related to land use and planning and population and housing would be fewer as compared to the proposed project.

Noise

Under the No Project Alternative, the project site would remain generally undeveloped. Therefore, Mitigation Measure 4.8-1, which serves to reduce construction noise, would not be required. However, without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element, which could require similar mitigation

measures as those to which the proposed project would be subject. While construction of the roadway could potentially result in noise impacts related to noise generated by construction vehicles and equipment, the alternative's construction activities would be shorter as compared to the proposed project, given the smaller area of ground disturbance. Additionally, implementation of Centennial Drive would occur in a greater distance from the Camden at Somerset Ranch residential subdivision to the south than would implementation of the proposed project. As such, construction of Centennial Drive would be expected to generate less noise than the proposed project, as Centennial Drive would require less construction activities and less time to implement. Construction of Centennial Drive would also adhere to Section 6.68.090 of the City's Municipal Code, which establishes time periods in which construction is restricted, as well as General Plan Policies N.1.4, N.1.5, and N.1.7, which apply to roadway construction. Therefore, the alternative's impacts related to noise would be fewer as compared to the proposed project.

Public Services and Utilities

Under the No Project Alternative, the project site would remain generally undeveloped. Therefore, under the alternative, no impact would occur related to public services or utilities. Without implementation of the proposed project, Centennial Drive would eventually be constructed as depicted in the Circulation Element. Construction of Centennial Drive would not result in impacts to public services and utilities, as the roadway would not introduce, either directly or indirectly, unplanned growth that would result in the provision of new or physically altered governmental services and/or facilities. As the construction of Centennial Drive has been planned for in the Circulation Element, the roadway would primarily serve to accommodate the City's existing population and growth anticipated for the City in the General Plan. Given that Centennial Drive would serve to accommodate the City's existing and future population already planned for in the General Plan, the roadway would not be expected to result in significant impacts related to utilities services. Therefore, the alternative's impacts related to public services and utilities would be fewer as compared to the proposed project.

Transportation

Under the No Project Alternative, the project site would remain generally undeveloped. Therefore, Mitigation Measures 4.10-2(a) and (b), which address impacts related to VMT, would not be required. The alternative would not result in the introduction of a significant number of new residences and associated improvements to the project site, which would, in turn, preclude new VMT associated with the residences. In addition, the construction of Centennial Drive through the project site would provide new roadway connections which, in general, tends to reduce regional VMT. Therefore, the alternative's impacts related to transportation would be fewer as compared to the proposed project.

2. Reduced VMT Alternative

The following section includes a description of the Reduced VMT Alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Description of Alternative

The Reduced VMT Alternative was designed to reduce project-generated total VMT to 26,260 VMT per day, which would represent the total project-generated VMT if the proposed project were to satisfy the City's proposed VMT threshold of 19.7 per capita (1,333 residents * 19.7 VMT per capita threshold = 26,260 VMT). In order for the alternative to not exceed a total per-day VMT of 26,260, the number of residential units constructed as part of the proposed project would need to be reduced from 440 to 376 units.

The Reduced VMT Alterative would therefore consist of 376 single-family residential lots on the same 98.9-acre development footprint. Lot sizes would be larger in size than those of the currently proposed project, and the reduction in units would result in a density of 3.8 dwelling units per acre (du/ac). Under the Reduced VMT Alternative, the project would require a rezone of the 98.9 acres to the RD-4 zoning district.

Because the Reduced VMT Alternative would result in a similar development footprint to the proposed project, access to the site under the alternative would continue to be provided by two entry points along Raymer Way. Edington Drive would still be extended to provide access from the site to the existing Camden at Somerset Ranch subdivision. However, with the reduction in units, the site would require fewer interior streets.

The alternative's utility connections would also be similar to the proposed project. Units would connect to the existing 10-inch water main in Edington Drive by way of a new eight-inch water main; however, given the reduced number of units, fewer interior water lines would be required. The same would hold true for the site's new sewer lines. The units would connect to existing eight-inch sewer lines in Edington Drive and Thornberg Way, but the alternative would require fewer sewer line connections to as compared to the proposed project. The alternative would still implement two bio-retention basins in the northwest portion of the site, and new drain inlets and underground storm drains would also be installed. The GPA would still be required to amend the General Plan's Circulation Element, which calls for extending Centennial Drive through the site.

Consistency with Project Objectives

Because the Reduced VMT Alternative would consist of 376 units, resulting in a density of 3.8 du/ac, the alternative would be inconsistent with the General Plan land use designation for the Grant Line West Planning Area, which includes a mix of Medium-Density Residential, with a density of 6.1 to 18 du/ac, and High-Density Residential, with a density of 18 to 40 du/ac. As a result, the Reduced VMT Alternative would be inconsistent with Objective #2. The alternative would meet Objectives #1, #3, #4, #5, #6, and #7, as the reduction of units would not affect the ability for the alternative to consolidate the remaining parcels in the Grant Line West Planning Area in a manner that concentrates development south of Morrison Creek; develop a residential community that is contiguous to and compatible with adjacent existing development; utilize existing utility capacity for maximum efficiency; develop a residential community that can provide timely housing; contribute to the overall bicycle and pedestrian connectivity of the City; or enhance the City's network of parks, trails, and open spaces.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions for each impact area addressed within this EIR.

Air Quality and Greenhouse Gas Emissions

Due to the Reduced VMT Alternative's reduction in the number of residential units, fewer internal roadways and less connections to water and sewer service would be required. However, site access, stormwater treatment and diversion, and the elimination of Centennial Drive within the project site would remain largely similar under the alternative as compared to the proposed project.

Although the alternative would include less units, the same area of disturbance would still be required to implement the alternative's components. Therefore, Mitigation Measure 4.1-7, which address impacts related to GHG emissions or climate change, may still be required. However, factoring in the alternative's reduced number of lots, which would result in a reduction of air pollutants and GHG emissions generated through construction and operation of the residences, as well as associated total VMT, the alternative's impacts related to air quality and GHGs would be fewer than the proposed project.

Biological Resources

With the increased lot sizes under the Reduced VMT Alternative, the area of impact to implement the alternative would be equivalent to the proposed project. Therefore, Mitigation Measures 4.2-1 through 4.2-10 and 4.2-12 would still be required. Given the similar area of disturbance, the alternative's impacts to biological resources would be similar to the proposed project.

Cultural and Tribal Cultural Resources

The area of impact to implement the alternative would be equivalent to the proposed project. Therefore, Mitigation Measures 4.3-2 and 4.3-3(a) through (d), which address impacts to cultural and tribal cultural resources, would still be required. Given the similar area of disturbance, the alternative's impacts to cultural and tribal cultural resources would be similar to the proposed project.

Geology and Soils/Mineral Resources

Because the alternative would still require compliance with recommendations of a final geotechnical engineering report and mitigation to address potential impacts to buried paleontological resources, Mitigation Measures 4.4-3 and 4.4-5 would still be required. Additionally, because the area of disturbance would be equivalent to the proposed project, the alternative's impacts to geology, soils, and mineral resources would be similar to the proposed project.

Hazards and Hazardous Materials

The area of disturbance to implement the alternative would be equivalent to the proposed project. Therefore, Mitigation Measures 4.5-2(a) through (f), which address potential release of on-site hazardous materials, would still be required. Given the similar area of disturbance, the alternative's impacts to hazards and hazardous materials would be similar to the proposed project.

Hydrology and Water Quality

Because the alternative would involve the same area of disturbance, the alternative would still require mitigation to address potential impacts related to short-term construction-related water quality and compliance with BMPs during construction, Mitigation Measures 4.6-1(a) and (b), 4.6-2, and 4.6-3 would still be required. As a result, the alternative's impacts to hydrology and water quality would be similar to the proposed project.

Land Use and Planning/Population and Housing

The alternative would implement the same components as the proposed project, just to a less intense degree. Consequently, the alternative would still require the elimination of a portion of Centennial Drive, and the alternative's impacts related to land use and planning and population and housing would be similar to the proposed project.

Noise

Mitigation Measure 4.8-1, which requires construction noise reductions, would still be required because the alternative would entail the construction of several residences. However, given that the alternative would include less units, the construction period for the alternative would be shorter. In addition, the development of less units would result in less traffic noise during operations. As a result, alternative's impacts related to noise would be fewer compared to the proposed project.

Public Services and Utilities

While the alternative would implement many of the same components as the proposed project, many of the components, such as the number of lots, internal neighborhood roadways, and utilities connections, would be implemented to a less intense degree. In addition, operations of fewer residential units would result in reduced demand for public services and utilities. As a result, the alternative's impacts related to public services and utilities would be fewer compared to the proposed project.

Transportation

Considering the City's VMT threshold is a function of VMT per capita, a reduction in the number of residents would correspond with a reduction in total VMT and, thus, result in an equivalent rate of VMT per capita. However, total project-generated VMT would be reduced by reducing the number of proposed units. Because the City's VMT threshold is a per capita rate, the alternative's reduced intensity of units would not avoid the project's potential to exceed the City's VMT threshold. The alternative would still require Mitigation Measures 4.10-2(a) and (b). However, total project-generated VMT would be reduced and, consequently, the alternative's impacts related to transportation would be fewer as compared to the proposed project. Nonetheless, although impacts related to transportation would be fewer, the Reduced VMT Alternative would not eliminate the significant and unavoidable impact related to the City's VMT threshold.

3. Reduced Footprint Alternative

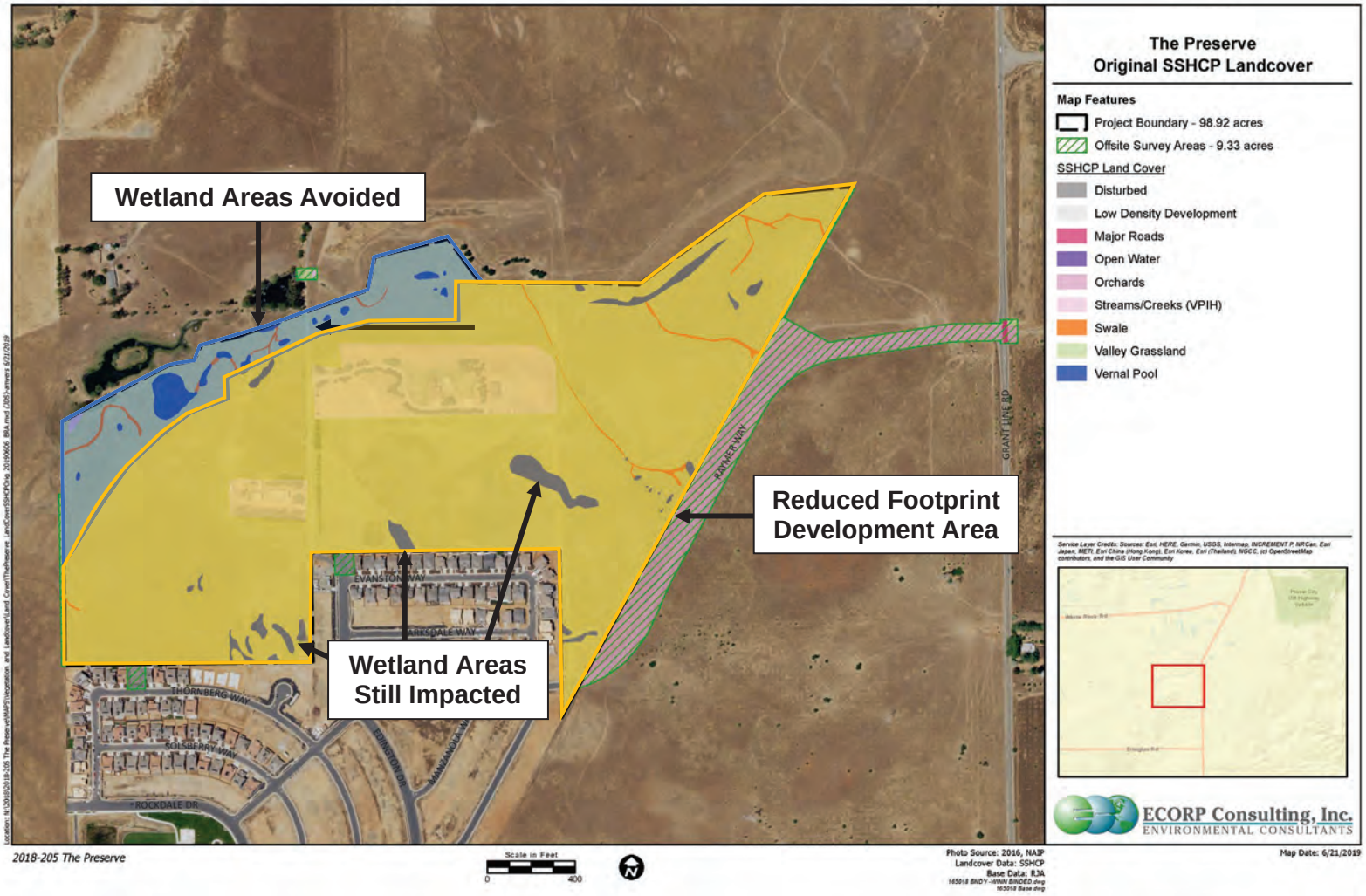
The following section includes a description of the Reduced Footprint Alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Description of Alternative

Under this alternative, the project site would be reduced to avoid wetland areas in the northwest section of the development area (see Figure 6-1). Wetlands in the southern section of the development area would still be impacted. The reduction in footprint would reduce the project's development area from 98.9 acres to 92.57 acres, which would preserve 6.33 acres of wetlands. The alternative would still implement the 9.77 acres designated for community space to allow for the inclusion of the bio-retention and hydromodification areas in the northwest portion of the site. Retaining the community space would necessitate a reduction in the number of units developed in the western portion of the project site, from 172 units to 47 units. The total units to be developed would be reduced from 440 units to 315 units. The reduction in units and footprint would result in a density of 3.4 du/ac. As such, the alternative would require a Rezone to the RD-4 Zoning District.

Because the Reduced Footprint Alternative would maintain a similar layout to the proposed project, access to the site under the alternative would continue to be provided by two entry points along Raymer Way. Edington Drive would still be extended to provide access from the site to the existing Camden at Somerset Ranch subdivision.

Figure 6-1
Reduced Footprint Alternative Development Area



The alternative's connections to utilities would also be similar to the proposed project. Units would connect to the existing 10-inch water main in Edington Drive by way of a new eight-inch water main; however, with fewer units, the alternative would require fewer new interior water lines. Similarly, the units would connect to existing eight-inch sewer lines in Edington Drive and Thornberg Way, but the alternative would require fewer sewer line connections.

New drain inlets and underground storm drains would also be installed. However, the amount of stormwater infrastructure within the site would also be reduced, due to the reduced area of ground disturbance. The GPA would still be required to amend the General Plan's Circulation Element, which calls for extending Centennial Drive through the site.

Consistency with Project Objectives

Because the Reduced Footprint Alternative would consist of 315 units, resulting in a density of 3.4 du/ac, the alternative would be inconsistent with the General Plan land use designation for the Grant Line West Planning Area, which includes a mix of Medium-Density Residential, with a density of 6.1 to 18 du/ac, and High-Density Residential, with a density of 18 to 40 du/ac. As a result, the Reduced Footprint Alternative would be inconsistent with Objective #2. The alternative would meet Objectives #1, #3, #4, #5, #6, and #7, as the reduction of units would not affect the ability for the alternative to consolidate the remaining parcels in the Grant Line West Planning Area in a manner that concentrates development south of Morrison Creek; develop a residential community that is contiguous to and compatible with adjacent existing development; utilize existing utility capacity for maximum efficiency; develop a residential community that can provide timely housing; contribute to the overall bicycle and pedestrian connectivity of the City; or enhance the City's network of parks, trails, and open spaces.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions for each impact area addressed within this EIR.

Air Quality and Greenhouse Gas Emissions

The Reduced Footprint Alternative would reduce the area of impact from 98.9 acres to 92.57 acres in order to avoid wetland areas in the northwest section of the project footprint. As the alternative would still implement the 9.77 acres designated for community space, the number of units developed in the western portion of the project site would be reduced from 172 units to 47 units and the total units developed would drop from 440 units to 315 units.

The alternative would include less units and the area of ground disturbance would be slightly decreased as compared to the proposed project. Therefore, Mitigation Measure 4.1-7 to address impacts related to GHG emissions or climate change may still be required. However, factoring in the alternative's reduced footprint and number of lots, which would result in a reduction of air pollutants and GHG emissions generated through construction and operation of the residences, as well as from associated VMT, the alternative's impacts related to air quality and GHGs would be fewer than the proposed project.

Biological Resources

While the area of disturbance to implement the alternative would be smaller in comparison to the proposed project, the alternative would still impact 92.57 acres, including wetland areas in the southern areas of the project site. Therefore, Mitigation Measures 4.2-1 through 4.2-10 and 4.2-

12 would still be required. However, because fewer wetlands would be impacted, the alternative's impacts to biological resources would be fewer as compared to the proposed project.

Cultural and Tribal Cultural Resources

While the area of disturbance to implement the alternative would be smaller in comparison to the proposed project, the alternative would still impact 92.57 acres. Therefore, Mitigation Measures 4.3-2 and 4.3-3(a) through (d), which address potential impacts to cultural and tribal cultural resources, would still be required. However, due to the alternative's smaller area of disturbance, the alternative's impacts to cultural and tribal cultural resources would be fewer as compared to the proposed project.

Geology and Soils/Mineral Resources

Given that the alternative would only shrink the area of disturbance within the project site from 98.9 acres to 92.57 acres, the alternative would still involve ground disturbance of several acres with the same soil conditions as compared to the proposed project. As such, the alternative would still require compliance with recommendations of a final geotechnical engineering report and mitigation to address potential impacts to buried paleontological resources. Therefore, Mitigation Measures 4.4-3 and 4.4-5 would still be required. However, considering the alternative's smaller footprint, the alternative's impacts to geology and soils and mineral resources would be fewer as compared to the proposed project.

Hazards and Hazardous Materials

While the area of disturbance to implement the alternative would be smaller in comparison to the proposed project, the alternative would still impact 92.57 acres. Therefore, Mitigation Measures 4.5-2(a) through (f), which address potential release of on-site hazardous materials, would still be required. However, considering the alternative's smaller footprint, the alternative's impacts to hazards and hazardous materials would be fewer as compared to the proposed project.

Hydrology and Water Quality

While the area of disturbance to implement the alternative would be smaller in comparison to the proposed project, the alternative would still include impervious surfaces and 315 units, which could result in soil erosion or the loss of topsoil during construction activities. As a result, the alternative would require mitigation to address potential impacts related to short-term construction-related water quality and compliance with BMPs during construction, and Mitigation Measures 4.6-1(a) and (b), 4.6-2, and 4.6-3 would still be required. However, considering the alternative's smaller footprint, the alternative's impacts to hydrology and water quality would be fewer as compared to the proposed project.

Land Use and Planning/Population and Housing

Because the alternative would implement many of the same components as the proposed project and would still prevent the construction of Centennial Drive within the boundaries of the project site, the alternative's impacts related to land use and planning and population and housing would be similar to the proposed project.

Noise

Because the alternative would implement many of the same components as the proposed project, just to a less intense degree, Mitigation Measure 4.8-1, which relates to short-term noise from construction activities, would still be required. However, given that the alternative would include less units, the construction period for the alternative would be shorter. In addition, the

development of less units would result in less traffic noise during operations. As a result, alternative's impacts related to noise would be fewer compared to the proposed project.

Public Services and Utilities

Many of the components, such as the number of lots and utilities connections, would be implemented to a less intense degree under the alternative as compared to the proposed project. In addition, operations of fewer residential units would result in reduced demand for public services and utilities. As a result, the alternative's impacts related to public services and utilities would be fewer compared to the proposed project.

Transportation

As described above for the Reduced VMT Alternative, while a reduction in the number of units and, thus, residents would correspond with a reduction in the total VMT, an equivalent rate of VMT per capita would still occur. Because the City's VMT threshold is a per capita rate, the alternative's reduced number of units would not avoid the project's potential to exceed the City's VMT threshold and, as a result, the alternative would still require implementation of Mitigation Measures 4.10-2(a) and (b). However, considering the alternative's reduced number of units, the alternative would generate fewer new vehicle trips and less total VMT as compared to the proposed project. As such, the alternative's impacts related to transportation would be fewer in comparison to the proposed project. However, the Reduced Footprint Alternative would not eliminate the significant and unavoidable impact related to the City's VMT threshold.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) requires consideration of an environmentally superior alternative from the range of reasonable alternatives evaluated. The environmentally superior alternative is the alternative that would result in the fewest or least significant environmental impacts. If the environmental superior alternative is the No Project Alternative, the EIR must identify the environmental superior alternative among the other alternatives. Table 6-1 provides a summary comparison of significance levels for identified impacts under each alternative, and is summarized below.

The No Project Alternative would reduce impacts to all issue areas. However, the No Project Alternative would not meet any of the project objectives.

The Reduced VMT Alternative would result in fewer impacts to Air Quality and GHG Emissions, Noise, Public Services and Utilities, and Transportation as compared to the proposed project. However, the Alternative would not avoid the significant and unavoidable impact related to VMT. The Reduced VMT Alternative would not meet Objective #2, but would meet Objectives #1, #3, #4, #5, and #7.

The Reduced Footprint Alternative would result in fewer impacts to almost all issue areas, except for Land Use and Planning/Population and Housing, which would be similar as compared to the proposed project. However, the Alternative would not avoid the significant and unavoidable impact related to VMT. The Reduced Footprint Alternative would not meet Objective #2, but would meet Objectives #1, #3, #4, #5, and #7.

Based on the analysis presented in this chapter, both the Reduced VMT Alternative and the Reduced Footprint Alternative would meet most of the project objective. However, the Reduced Footprint Alternative would result in fewer impacts than the Reduced VMT Alternative and the

proposed project. Therefore, the Reduced Footprint Alternative would be the environmentally superior alternative.

Table 6-1
Comparison of Environmental Impacts for Project Alternatives

Resource Area	Proposed Project level of significance after mitigation	1. No Project Alternative	2. Reduced VMT Alternative	3. Reduced Footprint Alternative
Air Quality and Greenhouse Gas Emissions	Less than Significant	<	<	<
Biological Resources	Less than Significant	<	=	<
Cultural and Tribal Resources	Less than Significant	<	=	<
Geology and Soils/Mineral Resources	Less than Significant	<	=	<
Hazards and Hazardous Materials	Less than Significant	<	=	<
Hydrology and Water Quality	Less than Significant	<	=	<
Land Use and Planning/Population and Housing	Less than Significant	<	=	=
Noise	Less than Significant	<	<	<
Public Services and Utilities	Less than Significant	<	<	<
Transportation	Significant and Unavoidable	<	<*	<*

Note: Less than Proposed Project = "<"; Similar to Proposed Project = "="; Greater than Proposed Project = ">".

* Significant and Unavoidable impact(s) determined for the proposed project would still be expected to occur under the Alternative.

7. EIR Authors and Persons Consulted

7. EIR AUTHORS AND PERSONS CONSULTED

Raney Planning & Management, Inc.

C. Timothy Raney, AICP	President
Cindy Gnos, AICP	Senior Vice President
Nick Pappani	Vice President
Rod Stinson	Division Manager/Air Quality Specialist
Angela DaRosa	Assistant Division Manager/Air Quality Specialist
Briette Shea	Senior Associate/Air Quality Technician
Jessica Chuidian-Ingersoll	Associate
Joe Baucum	Associate
Jesse Fahrney	Associate
Ben Porter	Associate

City of Rancho Cordova

Darcy Goulart	Principal Planner

Bollard Acoustical Consultants, Inc.

Dario Gotchet	Senior Consultant

ECORP Consulting, Inc.

Taraneh Emam	Project Manager/Senior Biologist
Keith Kwan	Senior Biologist
Angela Haas	Biologist
Matthew Spaulding	Biologist
Daniel Wong	Biologist
Ben Waitman	Arborist
Theodora Fuerstenberg	Senior Archaeologist
Roger Mason	Archaeologist
Megan Webb	Associate Archaeologist
Ellen Dahl	Associate Archaeologist

Geocon Consultants, Inc.

Shane Rodacker	Vice President

Kimley-Horn & Associates, Inc.

Matt Weir	Vice President/Principal Engineer
Chris Gregerson	Engineer

Ruggeri-Jensen-Azar & Associates

John Zellmer	Principal Engineer
Rich Radoycis	Project Manager
Steve Bowman	Project Manager

Youngdahl Consulting Group, Inc.

David C. Sederquist	Senior Engineering Geologist/Hydrogeologist
Dennis S. Eck	Staff Geologist

8. References

8. REFERENCES

1. AECOM, Inc. *SunCreek Specific Plan Project DEIR/DEIS*. October 2012.

2. ASTM International. *ASTM E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* 2013.

3. Bollard Acoustical Consultants, Inc. *Changes in noise levels associated with the addition of six (6) units for the proposed Preserve Residential Development in Rancho Cordova, California*. January 5, 2021.

4. Bollard Acoustical Consultants, Inc. *Environmental Noise & Vibration Assessment, The Preserve Residential Development.* September 3, 2020.

5. California Air Resources Board. *Aerometric Data Analysis and Management (iADAM) System.* Available at: http://www.arb.ca.gov/adam/welcome.html. Accessed May 2021.

6. California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.

7. California Air Resources Board. *Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. October 24, 2013. Available at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm. Accessed December 2020.

8. California Air Resources Board*. Ambient Air Quality Standards.* May 4, 2016. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed May 2021.

9. California Air Resources Board. *California Ambient Air Quality Standards (CAAQS). Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm.* Accessed May 2021.

10. California Air Resources Board. *Glossary of Air Pollution Terms.* Available at: http://www.arb.ca.gov/html/gloss.htm. Accessed May 2021.

11. California Air Resources Board. *In-Use Off-Road Diesel Vehicle Regulation*. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed December 2020.

12. California Air Resources Board. *Reducing Toxic Air Pollutants in California's Communities*. February 6, 2002.

13. California Air Resources Board. *The 2017 Climate Change Scoping Plan Update.* January 20, 2017.

14. California Department of Conservation. *EQ Zapp: California Earthquake Hazards Zone Application.* Available at: https://www.conservation.ca.gov/cgs/geohazards/eq-zapp. Accessed September 2020.

15. California Department of Education*. District Profile: Folsom-Cordova Unified.* Available at: https://www.cde.ca.gov/sdprofile/details.aspx?cds=34673300000000. Accessed March 2021.

16. California Department of Resources Recycling and Recovery (CalRecycle). *SWIS Facility Detail: Sacramento County Landfill (Kiefer) (34-AA-0001).* Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2070?siteID=2507. Accessed October 2020.

17. California Department of Resources Recycling and Recovery (CalRecycle). *California's Estimated Statewide Diversion Rates Since 1989*. Available at: http://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/Graphs/EstDiversion.htm. Accessed July 2019.

18. California Department of Transportation. *Transportation and Construction Vibration Guidance Manual.* 2013.

19. California Energy Commission. *Electricity Consumption by County*. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed April 2021.

20. California Energy Commission. *Gas Consumption by County: Sacramento County, Residential Sector, Year 2018*. Available at: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed January 2020.

21. California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.

22. California Regional Water Quality Control Board, Central Valley Region. *Order No. R5-2016-0020-01 NPDES No. CA0077682*. April 2016.

23. CalRecycle. *Jurisdiction Diversion/Disposal Rate Summary (2007 – Current).* Available at: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006. Accessed October 2020.

24. City of Citrus Heights, City of Elk Grove, City of Folsom, City of Galt, City of Rancho Cordova, City of Sacramento, County of Sacramento. *Sacramento Region Stormwater Quality Design Manual.* July 2018.

25. City of Ranch Cordova. *Rancho Cordova General Plan Environmental Impact Report.* June 2006.

26. City of Ranch Cordova. *Rancho Cordova General Plan*. Adopted June 26, 2006.

27. City of Rancho Cordova. *City of Rancho Cordova Bicycle Master Plan*. Available at: https://www.cityofranchocordova.org/home/showdocument?id=11416. Accessed January 2021.

28. City of Rancho Cordova. *City of Rancho Cordova Transportation Impact Guidelines*. June 2, 2020.

29. City of Rancho Cordova. *Development Related Processes and Fees*. May 2018.

30. De Novo Planning Group. *Environmental Impact Report for The Ranch Project (SCH: 2018072011)*. August 2019.

31. Department of Conservation, California Geological Survey. *Special Report 192: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California*. Published 2006.

32. Department of Conservation. *CGS Information Warehouse: Landslides*. Available at: http://maps.conservation.ca.gov/cgs/informationwarehouse/. Accessed April 2020.

33. Department of Conservation. *Mineral Land Classification Map Folsom 15-Minute Quadrangle*. May 30, 2018.

34. Department of Education, California School Dashboard. *District Performance Overview: Folsom-Cordova Unified.* 2019.

35. ECORP Consulting, Inc. *Addendum to Aquatic Resources Delineation for The Preserve Development.* June 27, 2019.

36. ECORP Consulting, Inc. *Addendum to Biological Resources Assessment for The Preserve Development.* July 25, 2019.

37. ECORP Consulting, Inc. *Aquatic Resources Delineation, The Preserve Development, Rancho Cordova, California.* November 26, 2018.

38. ECORP Consulting, Inc. *Arborist Survey Report, The Preserve, Rancho Cordova, California.* June 21, 2019.

39. ECORP Consulting, Inc. *Biological Resources Assessment, The Preserve Development, Rancho Cordova, California.* June 28, 2019.

40. ECORP Consulting, Inc. *Bird and Bat Potential Habitat Assessment Surveys – The Preserve Development Project, Rancho Cordova, California.* June 21, 2019.

41. ECORP Consulting, Inc. *Cultural Resources Inventory Report.* February 5, 2019.

42. ECORP Consulting, Inc. *Special-Status Plant Survey Report, The Preserve Development, Rancho Cordova, California.* June 27, 2019.

43. EDAW, Inc. *Rio del Oro Specific Plan Project Final EIR*. June 24, 2010.

44. ESRI Business Analyst*. 2010 Census Profile.* November 2019.

45. ESRI Business Analyst*. Comparison Report, City of Rancho Cordova.* February 2019*.*

46. Federal Emergency Management Agency. *Flood Insurance Rate Map, Map Number 06067C0250H.* August 16, 2012.

47. Federal Transit Administration*. Noise and Vibration Impact Assessment Manual.* 2018.

48. Folsom Cordova Unified School District Department of Facilities and Planning. *2019 School Facility Needs Analysis.* April 2019.

49. Folsom Cordova Unified School District. *Development Impact Fees*. Available at: https://www.fcusd.org/Page/2291. Accessed October 2020.

50. Folsom Cordova Unified School District. *Facility Master Plan.* November 2013.

51. Geocon Consultants, Inc. *Subject: The Preserve, Grant Line Road and Raymer Way, Rancho Cordova, California. Geotechnical Peer Review*. March 24, 2020.

52. Health Effects Institute. *Understanding the Health Effects of Ambient Ultrafine Particles*. January 2013.

53. Intergovernmental Panel on Climate Change. *Summary for Policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA*. 2014.

54. Jeff Rodrigues, Crime Analyst, Rancho Cordova Police Department. Personal communication [phone] with Joe Baucum, Associate, Raney Planning and Management, Inc. May 11, 2021.

55. Kimley-Horn. *Memorandum: The Preserve Centennial Drive Considerations*. August 16, 2021.

56. Kimley-Horn. *Supplemental Analysis for Six Additional Units.* February 8, 2021.

57. Kimley-Horn. *The Preserve, Vehicle Miles Traveled (VMT) Evaluation.* August 16, 2021.

58. Kimley-Horn. *Traffic Impact Analysis for The Preserve, City of Rancho Cordova, California.* November 4, 2020.

59. Pacific Gas and Electric. *Company Profile*. Available at: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed October 2020.

60. Rancho Cordova Police Department. *About Us*. Available at: https://www.ranchocordovapd.com/about-us. Accessed September 2020.

61. Ruggeri-Jensen-Azar & Associates. *Sewer Study for The Preserve.* June 2020.

62. Ruggeri-Jensen-Azar & Associates. *The Preserve – Unit Count Increase on Sewer and Water Studies*. January 2021.

63. Ruggeri-Jensen-Azar & Associates. *Water Study for The Preserve.* September 2018.

64. Ruggeri-Jensen-Azar. *Drainage Study for the Preserve.* Updated October 2019.

65. Sacramento Area Council of Governments. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. November 18, 2019.

66. Sacramento Area Council of Governments. *Draft Regional Housing Needs Allocation Methodology Menu.* September 19, 2019.

67. Sacramento Area Council of Governments. *Regional Housing Needs Allocation (RHNA) and Housing Issues.* Available at: https://www.sacog.org/regional-housing-needs-allocation-rhna. Accessed December 2019.

68. Sacramento County Water Agency. *2015 Urban Water Management Plan.* May 2016.

69. Sacramento County Water Agency. *Zone 40 Water Supply Master Plan.* February 2005.

70. Sacramento County Water Agency. *Zone 40 Water System Infrastructure Plan Update*. September 2016.

71. Sacramento County. *Environmental Impact Report for the Sacramento Regional County Sanitation District Interceptor Master Plan 2002 (SCH: 1995012061).* November 2002.

72. Sacramento Metro Air Quality Management District. *Minor Project Health Effects Screening Tool.* June 2020.

73. Sacramento Metro Air Quality Management District. *Thresholds of Significance Table*. April 2020.

74. Sacramento Metropolitan Air Quality Management District. *Air Quality Pollutants and Standards.* Available at: http://www.airquality.org/air-quality-health/air-quality-pollutants-and-standards. Accessed May 2021.

75. Sacramento Metropolitan Air Quality Management District. *CEQA Guide*. April 2020.

76. Sacramento Metropolitan Air Quality Management District. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*. October 2020.

77. Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment, Chapter 4: Operational Criteria Air Pollutant and Precursor Emissions*. June 2020.

78. Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts: Sacramento Region Spare the Air. *Air Quality Information for the Sacramento Region.* Available at: http://www.sparetheair.com/health.cfm?page=healthoverall. Accessed May 2021.

79. Sacramento Regional Community Services District. *Final Executive Summary: Sacramento Regional Wastewater Treatment Plant*. May 2008.

80. South Coast Air Quality Management District*. Final 2012 Air Quality Management Plan*. December 2012.

81. South Sacramento Habitat Conservation Plan. *What is the South Sacramento HCP?* Available at: https://www.southsachcp.com/. Accessed July 2019.

82. U.S. Energy Information Administration. *California: State Profile and Energy Estimates*. Available at: https://www.eia.gov/state/index.php?sid=CA. Accessed December 2020.

83. U.S. Environmental Protection Agency. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts.* 2009.

84. U.S. Environmental Protection Agency. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019.* April 14, 2021.

85. U.S. Environmental Protection Agency. *Nonattainment and Unclassifiable Area Designations for the 2015 Ozone Standards*. April 30, 2018.

86. U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions*. Available at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed May 2021.

87. Youngdahl Consulting Group, Inc. *Geology and Soils for The Preserve.* June 2019.

88. Youngdahl Consulting Group, Inc. *Phase I Environmental Site Assessment, The Preserve, Sacramento County APNs 072-0300-001, 002, -005, 008, -010, and 073-0010-011, Rancho Cordova, California.* June 2019.