CLAY PIT

STATE VEHICULAR RECREATION AREA

Draft Environmental Impact Report

State Clearinghouse Number 2010092003

Prepared for:

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CALIFORNIA STATE PARKS

Draft
Environmental Impact Report

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LIST OF ACRONYMS

µg/l	micrograms per liter
µg/m^3	micrograms per cubic meter
AB	Assembly bill
ADT	average daily trips
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
ALUC	airport land use commission
ALUCP	*Airport Land Use Compatibility Plan*
ANSI	American National Standards Institute
AQAP	Air Quality Attainment Plan
AQMD	Air Quality Management District
ARB	California Air Resources Board
ATV	all-terrain vehicle
BAAQMD	Bay Area Air Quality Management District
BCFD	Butte County Fire Department
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CBC	California Building Standards Code
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CLUP	comprehensive land use plan
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide

CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted sound levels
DEIR	draft environmental impact report
Department	Butte County Department of Water and Resource Conservation
DFG	California Department of Fish and Game
DMV	Department of Motor Vehicles
DOE	Determination of Eligibility
DTSC	Department of Toxic Substances Control
DU	Development Use Area
DWR	California Department of Water Resources
EB	eastbound
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
ESA	federal Endangered Species Act
FBO	Fixed Based Operator
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
General Plan	*Clay Pit State Vehicular Recreation Area General Plan*
GHG	greenhouse gas
HCP	habitat conservation plan
HWCL	Hazardous Waste Control Law
in/sec	inches per second
L_{10}	noise level exceeded 10% of a specific period of time
L_{50}	noise level exceeded 50% of a specific period of time
L_{90}	noise level exceeded 90% of a specific period of time
lbs/day	pounds per day
LCFS	Low Carbon Fuel Standard
LDL	Larson Davis Laboratories
L_{dn}	day-night noise level
L_{eq}	equivalent hourly average noise level

L_{max}	maximum noise level
L_n	statistical descriptor
LOS	level of service
mph	miles per hour
MS4	municipal separate storm sewer system
MT	metric ton
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	northbound
NCCP	natural community conservation plan
NIC	Northeast Information Center
NOA	notice of availability
NOC	notice of completion
NOP	notice of preparation
NO_x	oxides of nitrogen
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRM	Natural Resource Management
OHMVR	Off-Highway Motor Vehicle Recreation
OHV	off-highway vehicle
OHV BMP Manual	*OHV BMP Manual for Erosion and Sediment Control*
OPR	California Governor's Office of Planning and Research
O_3	ozone
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
PM	particulate matter
$PM_{2.5}$	fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less
PM_{10}	respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less
PO	Park Operations
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppm	parts per million
PPV	peak particle velocity

PRC	California Public Resources Code
PRM	Physical Resource Management
RCRA	Resource Conservation and Recovery Act
RMS	root-mean-square
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	southbound
SCAQMD	South Coast Air Quality Management District
SCOR	Sewerage Commission—Oroville Region
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SOI	sphere of influence
Soil Guidelines	2008 Soil Conservation Guidelines
Soil Standard	2008 Soil Conservation Standard
SO_2	sulfur dioxide
SPPO	State Parks Peace Officer
SR	State Route
State Parks	California Department of Parks and Recreation
SVAB	Sacramento Valley Air Basin
SVRA	State Vehicular Recreation Area
SWPPP	storm water pollution prevention plans
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	Transportation Concept Reports
TMDL	total maximum daily load
TPD	tons per day
UBC	Uniform Building Code
UFC	Uniform Fire Code
U.S.	United States
USC	U.S. Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
V/C	volume-to-capacity ratio
VdB	vibration decibels

VELB	valley elderberry longhorn beetle
VEO	Visitor Experience and Opportunities
WB	westbound

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Chapter S.0 – Summary

This summary section of the draft environmental impact report (DEIR) for the *Clay Pit State Vehicular Recreation Area General Plan* (Clay Pit SVRA General Plan or the General Plan) is provided in accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15123, which specifies that an environmental impact report (EIR) contain a brief summary of the proposed action and its consequences with clear and simple language. It also states that the summary identify each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; areas of controversy known to the lead agency, including issues raised by agencies and the public; and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. Accordingly, this summary includes a brief description of the project, environmental impacts and mitigation, areas of known controversy, and alternatives to the project.

S.1 Project Overview

Clay Pit State Vehicular Recreation Area (Clay Pit SVRA or SVRA) is considered a destination for beginner and intermediate riders and offers hills to climb, an open riding area, and informal trails. A limited number of developed facilities support recreation opportunities within the 220-acre SVRA. Existing facilities include a paved parking lot, an interpretive sign, two shade ramadas, two picnic tables, and a vault toilet.

All units operated by California State Parks (State Parks) must have a general plan prepared before new facilities are developed that may result in the permanent commitment of resources. The Clay Pit SVRA General Plan outlined in this DEIR is the first general plan prepared for this unit. General plans are broad-based policy documents that establish long-range visions and goals and provide direction on future types of improvements, services, and programs. The project considered in this DEIR is the implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities. The General Plan is a guidance document intended for use over many years, and it outlines goals and guidelines that apply to the entire Clay Pit SVRA. The goals and guidelines address existing issues and provide ongoing guidance to management that can be implemented to achieve the long-term vision for the SVRA, which is to provide an effectively managed and convenient place for friends, families, and groups to enjoy the outdoor recreational setting through OHV (off-highway vehicle) activity and other compatible recreational uses.

In addition to the long-range planning provided through the Clay Pit SVRA General Plan, the project includes multiple improvements to provide basic park facilities related to administration, maintenance operations, and recreation opportunities in the near term (within 2 years). Proposed improvements include a relocated entrance, a headquarters building to house administrative and

maintenance offices, an entrance kiosk, a maintenance yard, and associated upgraded utilities and roadways (Figure 2-3 of Chapter 2.0, "Project Description," in this DEIR).

The Clay Pit SVRA General Plan provides much of the physical and regulatory setting description and the project description used for the CEQA analysis in this DEIR. Chapter 2.0 of the General Plan, "Existing Conditions," describes the geographical, physical, and management setting, including resource conditions and planning influences. Chapter 4.0 of the General Plan, "The Plan," identifies proposed use areas and management goals and guidelines, which combine to serve as the project description used for this CEQA analysis.

S.2 Environmental Effects Eliminated from Further Analysis

The following topics were eliminated from full analysis in the DEIR because no potential exists for significant environmental effects to result from implementation of the Clay Pit SVRA General Plan, including headquarters facilities, related to these issues: agricultural resources, land use, minerals, population and housing, and recreation. See Chapter 5.0, "Other CEQA-Required Analyses," for additional discussion.

S.3 Summary of Impacts and Mitigation

This DEIR provides a detailed analysis of the potential significant environmental effects resulting from implementation of the Clay Pit SVRA General Plan, including headquarters facilities. The environmental analysis found that, with incorporation of project design features, implementation of goals and guidelines as directed by the General Plan, and adherence to regulatory requirements (e.g., State Parks and Off-Highway Motor Vehicle Recreation [OHMVR] Division requirements and guidelines, and requirements from regulatory agencies) implementation of the General Plan, including headquarters facilities, would result in less than significant environmental impacts to the following issue areas:

- transportation and traffic,
- air quality,
- noise,
- visual resources,
- biological resources,
- cultural resources,
- geology and soils,
- hydrology and water quality,
- public services and utilities,
- hazardous materials, and
- climate change.

No mitigation measures are required because impacts for all resource areas were found to be less than significant.

S.4 Areas of Known Controversy

During the development of the Clay Pit SVRA General Plan, the following issues were found to be areas of concern and interest:

- traffic controls at the site access;
- internal circulation;
- lack of on-site staff and maintenance;
- limited visitor facilities;
- lack of utility services to the site;
- erosion and sedimentation on the site;
- water quality and runoff from the Oroville Municipal Airport;
- lack of aesthetic quality on the site;
- public safety;
- water supply and water conservation;
- air quality degradation (e.g., from dust emissions, vehicle emissions);
- protection and preservation of biological resources in portions of Clay Pit SVRA, including aquatic resources and vernal pools;
- noise generated by OHVs and experienced both on- and off-site; and
- recreation opportunities restricted by resource protection requirements.

S.5 Issues to Be Resolved

The OHMVR Division is the CEQA lead agency for this project. The lead agency must consider community needs and desires, long-term planning, and the OHMVR Division mission for the purpose of determining the appropriate level of intensity of OHV use at Clay Pit SVRA. It will be important for OHMVR Division decision makers to resolve the need for balance between open and developed OHV use areas throughout the SVRA and restrictions in some areas to protect on-site natural resources and to provide for public safety and compatibility with surrounding land uses.

S.6 Summary of Alternatives Considered

CEQA requires analysis of a range of potential alternatives to the proposed project which would reduce any significant impacts. However, implementation of the proposed project (the Clay Pit SVRA General Plan as described in Chapter 2.0 of this DEIR) would cause no significant impacts. Therefore, alternatives were developed that have the potential of minimizing at least one less-than-significant impact in at least one resource area.

The alternatives analysis evaluates each issue area compared with the proposed project. The headquarters facilities analyzed in this DEIR were included as part of all of the alternatives except the No-Project alternative.

The following three project alternatives are considered in the alternatives analysis:

- the No-Project Alternative,
- the Conservation Alternative, and
- the Reduced Developed Use Area Alternative.

Under the No-Project Alternative, Clay Pit SVRA would remain in its current condition with no improvements or modifications. The Conservation Alternative would preserve some sensitive areas of the SVRA but would allow development throughout the rest of the SVRA. The Reduced Developed Use Area Alternative would allow the development of fewer OHV facilities, and therefore would attract a smaller increase in the number of visitors to the SVRA. Thus, this alternative would cause the least environmental impact and would be considered the Environmentally Superior Alternative although it does not meet all of the project objectives.

Chapter 1.0 – Introduction

This draft environmental impact report (DEIR) provides an evaluation of the environmental effects associated with the implementation of the *Clay Pit State Vehicular Recreation Area General Plan* (Clay Pit SVRA General Plan or General Plan). The intent of this DEIR is to inform decision makers and the public of the environmental consequences of implementation of the Clay Pit SVRA General Plan, including construction and operation of a specific near-term improvement project, the headquarters facilities. Figures 1-1 and 1-2 show the location of Clay Pit State Vehicular Recreation Area (Clay Pit SVRA or SVRA) near the City of Oroville in Butte County, CA. This DEIR was prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.). The Off-Highway Motor Vehicle Recreation (OHMVR) Division of California State Parks (State Parks) is the CEQA lead agency for this project.

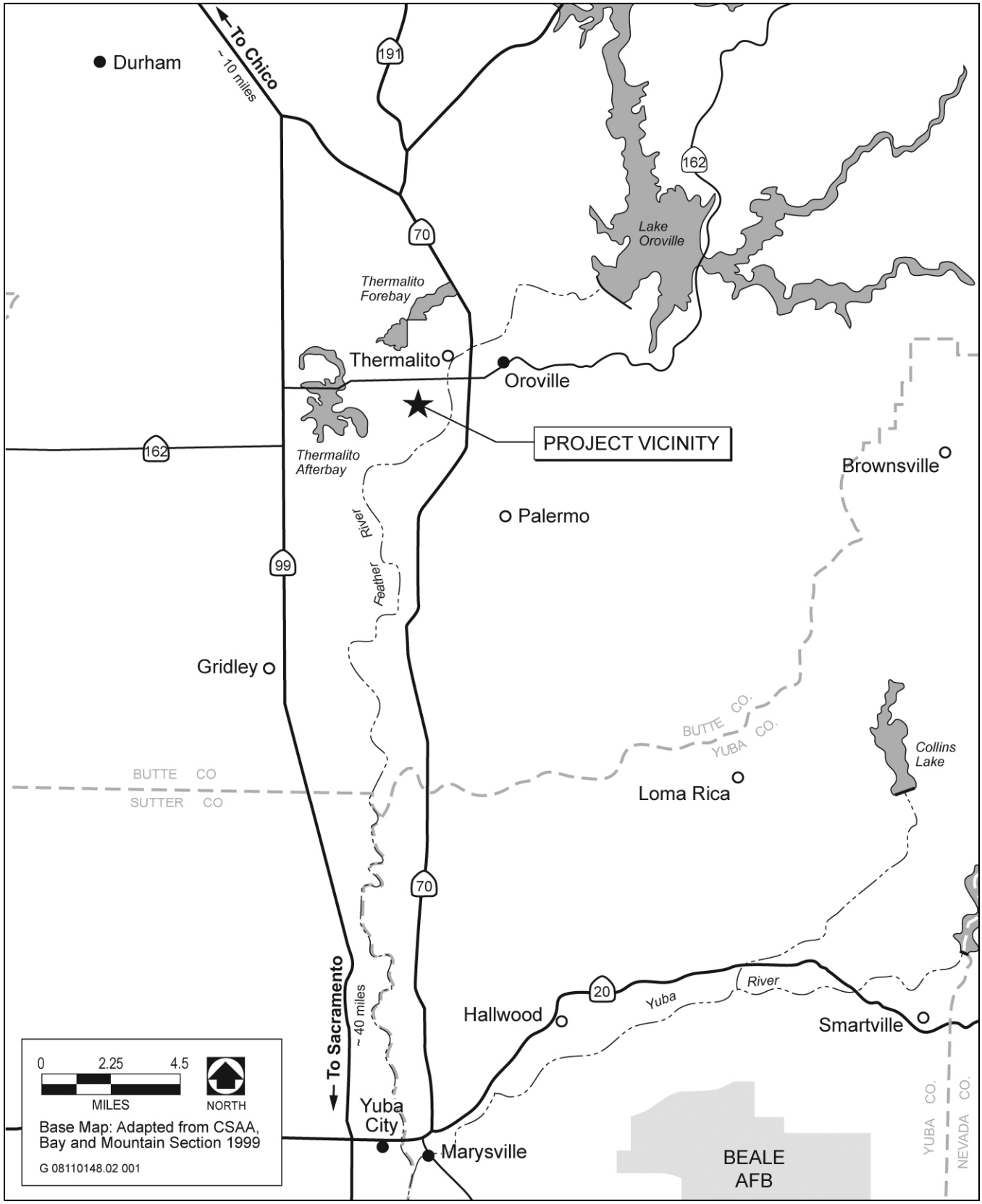
This introductory chapter provides an overview of the environmental review process required under CEQA, background information related to the proposed project (the Clay Pit SVRA General Plan), agency roles and responsibilities, and the organization used in this DEIR.

1.1 Type, Purpose, and Intended Use of This Environmental Impact Report

The purpose of an environmental impact report (EIR), under the provisions of CEQA, is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (PRC Section 21002.1[a]). CEQA requires that all state and local governmental agencies consider the environmental impacts of projects over which they have discretionary authority and balance the benefits of a proposed project against its unavoidable environmental consequences. If environmental impacts are identified as significant and unavoidable, the agency may still approve the proposed project if it believes that social, economic, or other benefits would outweigh the unavoidable impacts.

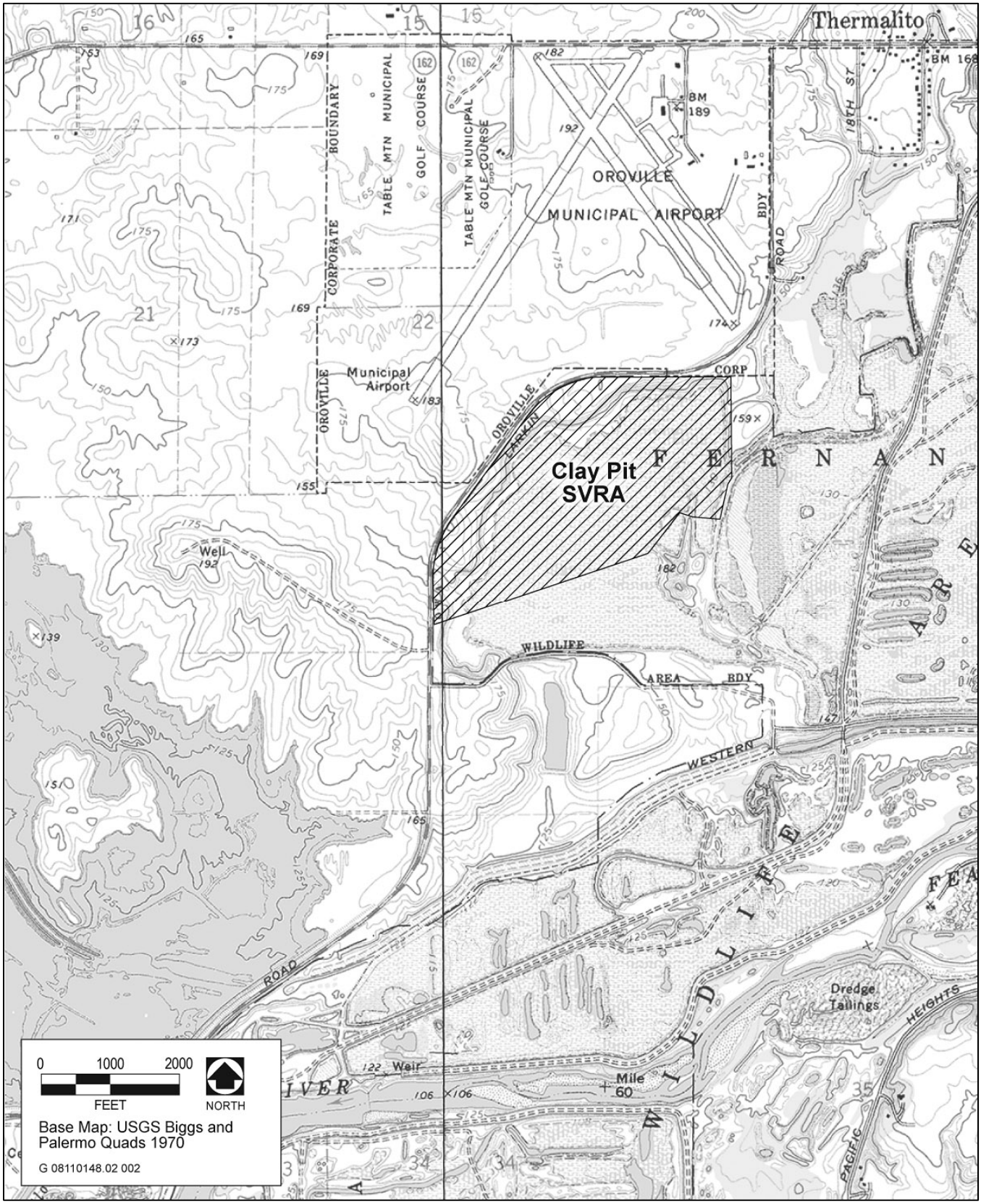
This DEIR was prepared by the OHMVR Division to assess the potential environmental impacts that could arise in connection with actions related to approval and implementation of the Clay Pit SVRA General Plan. It is intended to address the potentially significant adverse effects of the project on the physical environment to the extent that such effects are reasonably foreseeable at this time.

Because the General Plan is a planning document that provides goals and guidelines for future development, rather than specific and detailed projects, a program EIR was determined to be the appropriate CEQA document to analyze the potential environmental impacts of adopting and implementing the Clay Pit SVRA General Plan.



Source: Adapted by AECOM 2011

Vicinity Map **Figure 1-1**



Source: Adapted by AECOM 2011

Location Map **Figure 1-2**

According to the State CEQA Guidelines (Section 15168), a program EIR may be prepared on a series of actions that can be characterized as one large project; are related geographically; and are logical parts in the chain of contemplated actions in connection with issuance of rules, regulations, or plans. A program EIR is a type of EIR that allows a public agency to consider broad policy alternatives and program-wide mitigation measures at the early stages of planning. The required contents of a program EIR are the same as those of a project-level document. However, the level of detail and analysis in the two types of documents differ because a program-level document analyzes a general conceptual design and location of the proposed alternatives rather than providing a detailed level of analysis for a specific action (State CEQA Guidelines Section 15146).

This DEIR provides a first-tier analysis of the environmental effects of implementing the Clay Pit SVRA General Plan. Future projects associated with the General Plan will be reviewed in light of the information in this DEIR. If the OHMVR Division finds that, pursuant to Section 15152 of the State CEQA Guidelines, no new effects would occur or no new mitigation measures would be required on a subsequent project, the OHMVR Division can approve the activity as being within the scope of this DEIR. If new effects are identified that were not addressed in this DEIR, the OHMVR Division would prepare an appropriate CEQA compliance document, tiering from this DEIR by incorporating the general discussions of the broader EIR by reference and focusing the analysis solely on the issues specific to the later project.

The headquarters facilities described in the General Plan have been designed, funding for the facilities has been requested, and the OHMVR Division anticipates constructing the facilities shortly after adoption of the Clay Pit SVRA General Plan. Therefore, sufficient detail is available to prepare a project-level CEQA analysis for this General Plan element. Because potential impacts related to construction and operation of the headquarters facilities are relatively minor, the headquarters facilities project would not warrant the preparation of an EIR if it were being analyzed as a stand-alone project. However, including analysis of the headquarters facilities at a project level within this DEIR was determined to be an efficient approach for conducting the required environmental impact analysis for this project. Therefore, this DEIR also includes a project-level analysis of the headquarters facilities.

The project-level environmental analysis of the headquarters facilities project takes into consideration all known details of the headquarters facilities as proposed. This analysis meets CEQA requirements, so no additional analysis would be necessary to implement this project. If details regarding the headquarters facilities are modified substantially from the assumptions used for this analysis, additional environmental evaluation may be required before implementation of the project.

This DEIR is intended to be used by lead, responsible, and trustee agencies that may have review authority over the project. Agencies that are expected to use the DEIR as a reference for future actions include, but are not limited to, the following:

- State Parks,
- California Department of Fish and Game (DFG),
- U.S. Fish and Wildlife Service (USFWS),
- U.S. Army Corps of Engineers (USACE),
- Regional Water Quality Control Board (RWQCB),
- Butte County, and
- Butte County Air Quality Management District.

The approvals required by the OHMVR Division to implement the Clay Pit SVRA General Plan project are the approval of the General Plan and DEIR and the approval of the headquarters facilities funding.

1.2 General Plan Process and Public Participation

General plans are broad-based policy documents that establish long-range visions, goals, and guidelines for management and provide direction on future types of improvements, services, and programs. General planning provides opportunities to assess resource stewardship, facility development and management, and interpretation to the public. It provides guidelines for future land use management and designation, including land acquisition and the development of facilities required to accommodate expected visitation and administrative needs.

The Clay Pit SVRA General Plan provides a comprehensive framework intended to guide development, ongoing management, and public use at Clay Pit SVRA for many years. Because it is intended as a long-term guide, the General Plan must remain flexible, general in its scope, and consistent in the vision for Clay Pit SVRA's future. The General Plan must allow for changing conditions over time and for solving future management problems.

Public and stakeholder input is an important component of State Parks' general plan process. Input is sought at the very beginning and throughout the planning process, and it plays an essential role in the development of the recommendations, goals, and guidelines within the general plan. A public participation program was implemented during development of the Clay Pit SVRA General Plan. The goal of this extensive public and stakeholder outreach effort was to identify the community's ideas and desires for future management and use of Clay Pit SVRA, and to understand the community's concerns about the future of the park. Elements of the public participation program included an on-site and online visitor survey, stakeholder interviews, distribution of fact sheets and newsletters, compilation of project information in working papers, and three public workshops (see Clay Pit SVRA General Plan Appendix A).

The following is a chronological list of public information materials and opportunities for public and stakeholder participation and input provided throughout the planning process for development of the Clay Pit SVRA General Plan:

- On-line Survey: May–August 2010,
- Fact Sheet: May 2010,
- Public Workshop #1: June 2010,
- Stakeholder Telephone Interviews: July and August 2010,
- Public Workshop #2: August 2010,
- Newsletter: August 2010, and
- Public Workshop #3: September 2010.

All materials developed in support of the public participation program are available on the Clay Pit SVRA Website: http://ohv.parks.ca.gov/?page_id=26300.

1.3 Comments Received on the Scope of the DEIR

As required by State CEQA Guidelines Section 15082, the OHMVR Division issued a notice of preparation (NOP) on September 1, 2010. The purpose of the NOP was to identify agency and public concerns regarding potential impacts of the Clay Pit SVRA General Plan and to solicit comments on the scope of the DEIR. The NOP and written and verbal comments received during the 30-day public review period for the NOP are included in Appendix A of this DEIR.

Comment letters in response to the NOP were received from:

- the Native American Heritage Commission;
- California Department of Transportation, District 3;
- California Department of Transportation, Division of Aeronautics; and
- Ken Trombley.

In addition to written comments received during the public comment period, a public scoping meeting was held during Public Workshop #3 in September 2010. Verbal comments were received during the scoping meeting. Detailed notes of these verbal comments are included in Appendix A of this document.

Issues, both written and verbal, raised during the public comment period included:

- Land Use
  - compliance with the Butte County Airport Land Use Compatibility Plan
- Transportation
  - safety and traffic operations
- Recreation
  - trails for nonmotorized use (walking and bicycling) on the perimeter
  - overnight camping

- Safety
  - proximity to California Department of Fish and Game shooting range
  - separate riding areas for beginners

- Cultural Resources
  - identification and protection of undiscovered archaeological resources

1.4 Focus of the DEIR

Pursuant to Section 15063 of the State CEQA Guidelines, the scope of the analysis in this DEIR was informed by the results of public workshops that were conducted and comments received during the NOP comment period, which are summarized in the previous section. This DEIR addresses those environmental issues known to relate to the site and those issues identified to be of community concern as expressed at the workshops and scoping process. These environmental issues are:

- transportation and traffic,
- air quality,
- noise,
- visual resources,
- biological resources,
- cultural resources,
- geology and soils,
- hydrology and water quality,
- public services and utilities,
- hazardous materials, and
- climate change.

1.5 Environmental Review Process

As described in Section 1.3, an NOP was issued to inform agencies and the public about the preparation of this DEIR and to solicit input regarding the scope of the issues to be addressed herein. The comments received were considered while this DEIR was prepared.

OHMVR Division filed a notice of completion (NOC) with the California Governor's Office of Planning and Research, State Clearinghouse, indicating that this DEIR is complete and is available for review. A notice of availability (NOA) of this DEIR has also been filed with the State Clearinghouse; circulated to persons, organizations, and agencies on the project mailing list; and posted in local papers. The NOA describes the project and the project location, identifies significant environmental impacts, specifies the review period, and identifies the address where this DEIR and accompanying General Plan are available for review.

Agencies and individuals are invited to comment on the information contained in this DEIR. Comments should address the DEIR's accuracy and completeness on environmental issues. Where possible, those responding should endeavor to provide the information they feel is lacking in the DEIR, or they should indicate where the information may be found. Following the 45-day public comment period, all comments will be reviewed and considered by the OHMVR Division. If necessary, analysis in this DEIR will be revised or expanded to address comments pertaining to environmental impacts of the project received during the public comment period. The revised DEIR and all responses to comments will be incorporated into a final EIR. The OHMVR Division will then consider the final EIR for certification. Certification of the final EIR is not project approval or adoption but, rather, an action by the lead agency stating that the environmental analysis is adequate and that CEQA obligations have been fulfilled. The OHMVR Commission has approval authority for all OHMVR Division general plans and EIRs. This commission determines whether to accept the certified EIR as a final EIR under State CEQA Guidelines Section 15166 and adopt the Clay Pit SVRA General Plan as a general plan under PRC 5002.2.

1.6 Subsequent Environmental Review Process

The goals, guidelines, proposed use areas, uses, and facilities described in the Clay Pit SVRA General Plan are evaluated in this DEIR for their potential effects on the environment. Also, actions that may result from adoption of the General Plan were anticipated and potential impacts resulting from these actions are analyzed. The environmental analysis has been conducted concurrent with the development of the General Plan. Impact minimization measures have been incorporated within the General Plan wherever possible to help ensure that planned actions described in the General Plan, including those to be implemented in the future, would not result in significant environmental impacts.

Therefore, the CEQA analysis detailed in this DEIR that accompanies the Clay Pit SVRA General Plan is intended to be adequate for many future projects implemented in a manner consistent with the goals and guidelines herein. Some actions described in the General Plan may require additional CEQA analysis documentation after the project details are known. All projects that may be implemented in the future as a result of adopting this Clay Pit SVRA General Plan must be subjected to CEQA review according to State CEQA Guidelines Section 15168, in light of the information in the EIR prepared for the General Plan, to determine whether additional CEQA documentation is necessary. The type of additional CEQA documentation completed would be determined based on State CEQA Guidelines Sections 15162–15164. When future projects requiring additional environmental review are implemented, the OHMVR Division may refer to this DEIR, prepared for the Clay Pit SVRA General Plan, as a starting point for a "tiered CEQA analysis," per Sections 15152 and 15168 of the State CEQA Guidelines.

1.7 DEIR Contents and Organization

Summary: A summary is included at the beginning of this document to provide simple reference to the conclusions of the analyses presented in this DEIR. Also addressed in the summary are issues of known controversy, environmental issues to be resolved, and alternatives considered.

Chapter 1.0, "Introduction": This chapter provides an introduction and overview describing the purpose of the DEIR and the CEQA process, a brief overview of the OHMVR Division planning and public outreach process, comments received on the scope of this DEIR, and a description of future subsequent environmental review that may be required.

Chapter 2.0, "Project Description": This chapter provides information on the environmental setting, information about past and current use of Clay Pit SVRA, project objectives, Clay Pit SVRA General Plan components and headquarters facilities included for analysis in this DEIR, regional planning context, and intended uses of this DEIR.

Chapter 3.0, "Environmental Analysis": This chapter evaluates the potential environmental impacts of the Clay Pit SVRA General Plan and headquarters facilities. This chapter also presents those goals and guidelines within the General Plan that would reduce those potential impacts.

Chapter 4.0, "Cumulative Analysis": This chapter analyzes the potential cumulative impacts of the Clay Pit SVRA General Plan and headquarters facilities in combination with past, present, and future projects.

Chapter 5.0, "Other CEQA-Required Analysis": Other CEQA-required analyses provided in this chapter include environmental effects eliminated from future analysis, unavoidable significant environmental effects, significant irreversible environmental changes, and growth-inducing impacts.

Chapter 6.0, "Alternatives to the Proposed Action": This chapter considers a reasonable range of potentially feasible alternatives to the Clay Pit SVRA General Plan that could avoid or substantially lessen any of the significant effects of the project identified in Chapter 3.0. Analysis of the No-Project Alternative is included, as well as identification of the environmentally superior alternative, as required by CEQA.

Chapter 7.0, "References": This chapter contains a complete list of all references used during the preparation of this DEIR, as well as citations for personal communications.

Chapter 8.0, "Report Contributors": This chapter contains a complete list of the DEIR preparers and contributors.

Table 1-1 lists the location of CEQA-required content in this DEIR.

TABLE 1-1. LOCATION OF CEQA-REQUIRED CONTENT

State CEQA Guidelines Content	Location in DEIR
15122 Table of Contents or Index	Beginning of this document
15123 Summary	EIR Summary, following Table of Contents
15124 Project Description	Chapter 2.0, Section 2.4, "Proposed General Plan Components" Chapter 1.0, "Introduction" (information about project objective and the Clay Pit SVRA General Plan process)
15125 Environmental Setting	Chapter 2.0, Section 2.1, "Environmental Setting"
15126 Consideration and Discussion of Environmental Impacts	Chapter 3.0, "Environmental Analysis"
(a) Significant Environmental Effects of the Proposed Project	EIR Summary Chapter 3.0, "Environmental Analysis"; within each topic area as Section 3.X.5, "Summary of Significant Impacts"
(b) Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented	Chapter 5.0, Section 5.2, "Unavoidable Significant Environmental Impacts"
(c) Significant Irreversible Environmental Changes Which Would be Involved in the Proposed Project Should it be Implemented	Chapter 5.0, Section 5.3, "Significant Irreversible Environmental Changes"
(d) Growth-Inducing Impact of Proposed Project	Chapter 5.0, Section 5.4, "Growth-Inducing Impacts"
(e) The Mitigation Measures Proposed to Minimize the Significant Effects	Chapter 3.0, "Environmental Analysis"; within each topic area as Section 3.X.6, "Mitigation Measures" EIR Summary, Section S.4, "Summary of Impacts and Mitigation"
(f) Alternatives to the Proposed Project	Chapter 6.0, "Alternatives to the Proposed Action" EIR Summary, Section S-7, "Summary of Alternatives Considered"
15127 Limitations on Discussion of Environmental Impact	Chapter 5.0, Section 5.3, "Significant Irreversible Environmental Changes"
15128 Effects Not Found to be Significant	Chapter 5.0, Section 5.1, "Environmental Effects Eliminated from Further Analysis"
15129 Organizations and Persons Consulted	Chapter 1.0, Section 1.2, "General Plan Process and Public Participation" Chapter 3.0, Section 3.6, "Cultural Resources" ("Native American Consultation" section) Chapter 7.0, "References" Chapter 8.0, "Report Contributors"
15130 Discussion of Cumulative Impacts	Chapter 4.0, "Cumulative Analysis"
15131 Economic and Social Effects (optional topic)	Throughout the document under discussions of recreation and visitor experience

Chapter 2.0 – Project Description

This chapter provides a description of the Clay Pit SVRA General Plan, including the headquarters facilities. As described in Section 15124 of the State CEQA Guidelines, a complete project description must contain the following information:

- the location and boundaries of the proposed project;
- a statement of objectives sought by the proposed project;
- a general description of the project's technical, economic, and environmental characteristics; and
- a statement briefly describing the intended uses of the EIR.

By legal mandate (PRC Section 5002.2), all units operated by State Parks must have a general plan prepared before new facilities are developed that may permanently commit a resource to a particular use. The Clay Pit SVRA General Plan would be the first general plan prepared for Clay Pit SVRA. General plans are broad-based policy documents that establish long-range visions and goals and provide direction on future types of improvements, services, and programs. General plans are intended to be used for many years. Therefore, a general plan establishes a decision-making framework consistent with the established vision, but it is also flexible enough to allow for changing conditions over time.

The Clay Pit SVRA General Plan provides much of the physical and regulatory setting description, and the project description used for the CEQA analysis in this DEIR. Chapter 4.0 of the General Plan, "The Plan," identifies (1) proposed use areas, (2) management goals and guidelines, and (3) project details of the headquarters facilities. These elements combine to serve as the project description used for this CEQA analysis, and Chapter 4.0 is incorporated by reference herein consistent with Section 15150 of the State CEQA Guidelines. A summary of the project description is provided below.

2.1 Environmental Setting

This section provides an overview of the general character of Clay Pit SVRA and the surrounding vicinity. This description includes location, on-site activities, general environmental characteristics and resources, and surrounding development. Please also refer to Chapter 2 of the General Plan for additional detail regarding current conditions and uses of the site.

Clay Pit SVRA is a 220-acre site that is used for off-highway vehicle (OHV) recreational use. The SVRA is located in unincorporated Butte County (Figure 2-1) on Larkin Road 3 miles southwest of the city of Oroville and approximately 6.75 miles southwest of Oroville Dam Boulevard (State Route [SR] 162). The Oroville Municipal Airport is located north and northwest of Clay Pit SVRA. Scattered residences and agricultural uses are located to the west, the DFG Oroville Wildlife

Management Area is located to the east and the DFG Shooting Range is south of the site (Figure 2-2).

The nearest population centers include the city of Oroville (15,000 population), approximately 3 miles east of Clay Pit SRVA, and the city of Gridley (6,500 population), approximately 9 miles southwest. The largest city in the region is Chico (88,000 population), approximately 30 miles to the northwest. Sacramento (447,000 population) is approximately 70 miles to the south. The population within unincorporated Butte County includes approximately 84,000 people (DOF 2010).

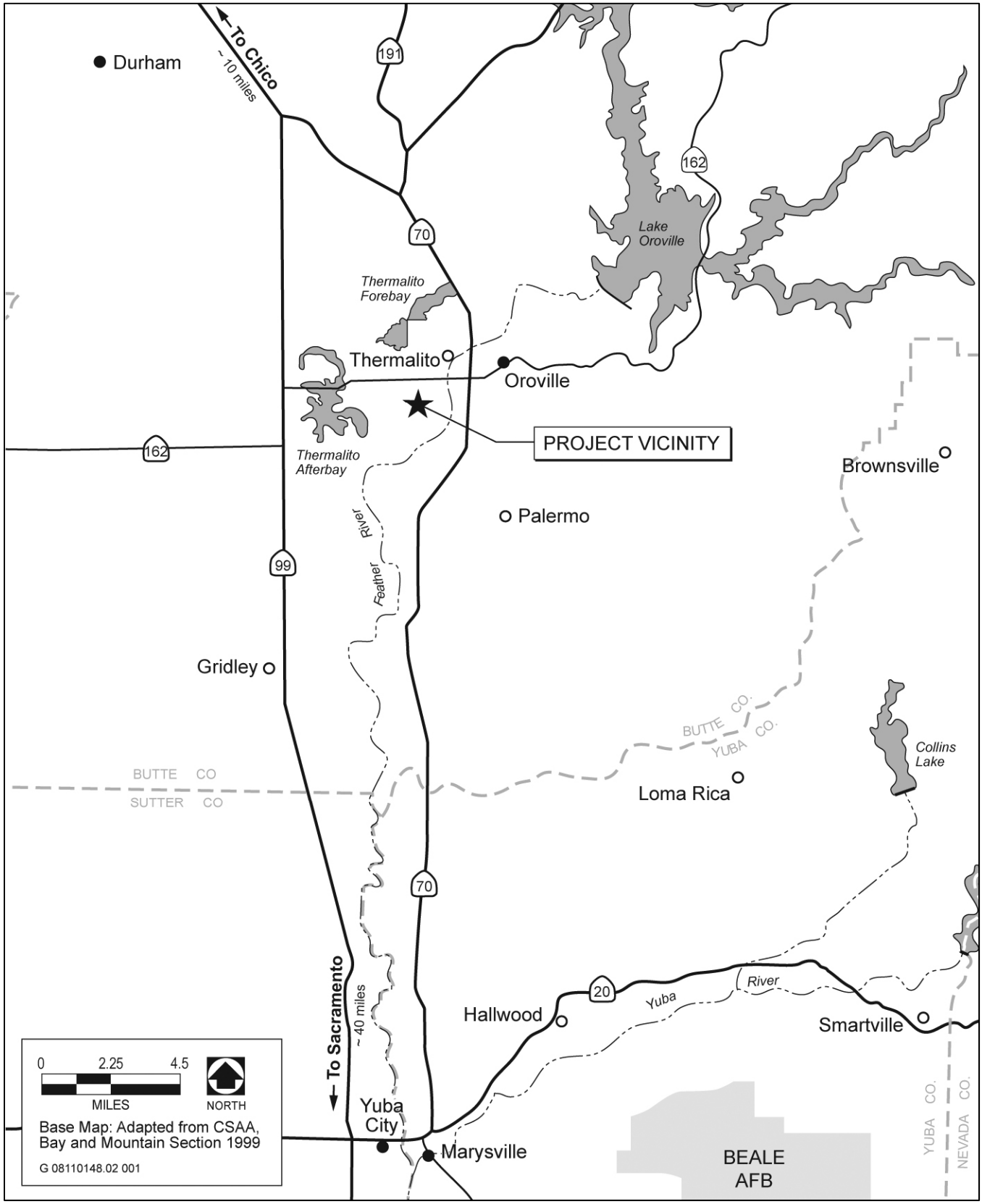
The clay pit basin (a large, shallow, excavated depression) was formed when clay was mined and used to construct the Oroville Dam in the 1960s. This mining intensely altered the natural topography of the project site. A terrace surrounding the excavated pit contains the only remaining natural topography and vegetation. A central drainage canal transects the site from the northwest to the southeast. During the rainy season, runoff from the airport property to the north is conveyed through a culvert under Larkin Road and into this canal. This water is then discharged off-site to a remnant oxbow lake within the DFG Oroville Wildlife Management Area, adjacent to the Feather River.

Plant communities in Clay Pit SVRA consist of degraded annual grassland and wetlands. Wetland communities include vernal pools, an intermittent drainage, the drainage canal, and an emergent marsh. Degraded annual grasslands occur primarily along the bluffs and elevated rim along the northern and western perimeter of the SVRA, but also are located throughout the SVRA basin floor where slight elevations in microtopography occur.

Clay Pit SVRA is considered a destination for beginner and intermediate riders and offers hills to climb, an open OHV recreation area, and informal trails. The SVRA contains a limited number of developed facilities, including a paved parking lot, an interpretive sign, two shade ramadas, two picnic tables, and a vault toilet. Estimates of visitation range from 8,900 to 13,800 passenger vehicles per year. Using a ratio of 2.5 people per vehicle generates an estimated range of 22,250–34,500 visitors per year (Appendix C in the Clay Pit SVRA General Plan).

2.2 Project Background

SVRAs are OHV parks that are operated by the OHMVR Division of State Parks. OHVs are land vehicles mostly used for recreation purposes, such as all-terrain vehicles (ATVs), motorcycles, and 4-wheel-drive trucks. The OHMVR Division is mandated to ensure that SVRAs are managed for long-term environmental sustainability and to comply with applicable environmental laws, guidelines, and regulations.



Source: AECOM 2011

Regional Location **Figure 2-1**

Source: BCAG 2007

Local Setting **Figure 2-2**

The OHMVR Division is required to manage SVRAs in accordance with management standards established for the OHMVR Program (PRC Sections 5090.2, 5090.35, and 5090.53). These management standards include soil conservation and resource management protocols (State Parks 2008).

In 1981, State Parks entered into an agreement with DFG and the California Department of Water Resources (DWR), the landowners, to take possession of the Clay Pit site, previously known as "the impervious materials borrow area at Oroville Division." The *Agreement for Transfer to Department of Parks and Recreation of the Impervious Materials Borrow Area at Oroville Division* was signed on January 22, 1981. The agreement gave State Parks the right to plan, develop, and administer real and personal property for the site as an OHV park. DWR retains the right to inundate the site or remove additional borrow material if necessary for the Oroville Division of the State Water Project (Oroville Dam); however, to date, DWR has not exercised these rights nor expressed an interest in exercising these rights.

2.3 Project Objectives

Project objectives are used to develop and evaluate a range of alternatives to the proposed project. A description of the project objectives is required by Section 15124 of the State CEQA Guidelines.

2.3.1 Mission Statements

California State Parks' Mission

The mission of the California Department of Parks and Recreation is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

Off-Highway Motor Vehicle Recreation Division Mission Statement

The mission of the OHMVR Division is to provide leadership statewide in the area of OHV recreation; to acquire, develop, and operate SVRAs; and to otherwise provide for a statewide system of managed OHV recreational opportunities through funding to other public agencies. The OHMVR Division also aims to ensure that quality recreational opportunities remain available for future generations by providing for education, conservation, and enforcement efforts that balance OHV recreation impacts with programs that conserve and protect cultural and natural resources.

2.3.2 General Plan Objectives

The objectives of the Clay Pit SVRA General Plan are as follows:

- Plan orderly implementation of long-term capital improvements, including the headquarters facilities and entrance areas in Clay Pit SVRA.

- Guide the enhancement of recreation opportunities that support family and community-oriented use.
- Provide a framework for the provision of adequate facilities for Clay Pit SVRA management operations.
- Manage Clay Pit SVRA for protection of natural communities and high-quality OHV recreational experiences.
- Guide future interpretive programs.
- Promote public health and safety at Clay Pit SVRA.
- Anticipate future area growth pressures and identify strategies to accommodate them at Clay Pit SVRA.
- Maximize the use of Clay Pit SVRA as a recreation resource while also protecting natural and cultural resources on-site.

2.3.3 Headquarters Facilities Objectives

The objectives of the headquarters facilities project are as follows:

- Provide adequate administration, visitor services, and maintenance facilities to allow an expansion of OHV recreation facilities for Clay Pit SVRA.
- Accommodate increased traffic flow at Clay Pit SVRA ingress and egress points.

2.4 General Plan Components

This section provides an overview of the Clay Pit SVRA General Plan components, including park classification, purpose, vision, land use management, and proposed improvements.

2.4.1 Park Classification

The *Agreement for Transfer to Department of Parks and Recreation of the Impervious Materials Borrow Area at Oroville Division* was signed on January 22, 1981. The agreement gave State Parks the right to plan, develop, and administer real and personal property for the site as an OHV park and the site was designated as an SVRA.

2.4.2 Purpose

The declaration of purpose describes the purpose of an SVRA and is the broadest statement of management goals designed to fulfill the vision of Clay Pit SVRA. A declaration of purpose "setting forth specific long-range management objectives for the park consistent with the park's classification" is required by PRC Section 5002.2(b), The purpose of the SVRA was developed as part of the general plan process and is as follows:

> The purpose of Clay Pit SVRA is to provide effectively managed, responsible off-highway vehicle (OHV) and related recreational opportunities with recognition of

the significance of Clay Pit SVRA to the local population. The unit's relatively small size and unique outdoor recreational setting provide opportunities for various forms of OHV use, family and social gathering, and interpretive programs.

2.4.3 Vision

A unit's vision describes an SVRA in future years, after State Parks has achieved the General Plan's objectives and satisfied visitor expectations. The vision for the General Plan is as follows:

> Clay Pit SVRA provides a safe and convenient place for individuals, families, and groups to enjoy an outdoor recreational setting. On any given day, visitors are able to take part in managed OHV recreation and other activities, and to enjoy the unique setting. Clay Pit SVRA's natural and cultural history provides opportunities for education and interpretation. Clay Pit SVRA provides high-quality outdoor experiences for both the local and regional community in the greater Oroville area, already known for its extensive recreational activities.

2.4.4 Land Use Management

Management zones or land use areas (use area) for Clay Pit SVRA are described in the General Plan, and the construction of headquarters facilities is proposed to support management of the SVRA.

Use Areas

Use areas were developed to allow for specialized management by area in the SVRA. These use areas were developed through consideration of a variety of factors, including geographic relationships, resource values, ecological parameters, management issues and goals, types and intensities of land use, and visitor use and experience. The General Plan defines three use areas: the Developed Use Area, the Open OHV Recreation Area, and the Drainage Management Area.

A brief description of features, primary management intent, intended activities, proposed facilities, and potential or anticipated facilities in these use areas are listed in Table 2-1, Use Area Matrix. Figure 2-3, "Use Areas and Headquarters Facilities," shows the location and extent of each of the three use areas in Clay Pit SVRA, as well as the headquarters facilities proposed for construction within the Developed Use Area. Construction of visitor facilities envisioned in the General Plan is expected to occur by approximately 2017.

Please also refer to the Chapter 4.0 of the General Plan for additional detail regarding proposed use areas.

Headquarters Facilities

The OHMVR Division proposes that the Clay Pit SVRA headquarters facilities would be constructed in the Developed Use Area in approximately 2013 (Figure 2-3). The facilities would include a headquarters building, maintenance yard, new entrance and roadway alignment, and an entrance kiosk. Supporting utilities would also be constructed including one well, an engineered septic system, a propane tank, and electricity brought in from facilities at the Oroville Municipal Airport. These new facilities would play an important role in enabling other proposed facilities and visitor uses in the future. These facilities would provide for the equipment and staff needed to maintain Clay Pit SVRA at a higher intensity of use. Because the construction of these facilities (including the entry kiosk) would facilitate the collection of a use fee, it is anticipated that construction of these facilities may slightly decrease visitation to the SVRA in the short term until new OHV facilities are built.

Please also refer to Chapter 4.0 of the General Plan for additional detail regarding the headquarters facilities.

2.4.5 Goals and Guidelines

Goals and guidelines were developed and described in the General Plan to address existing issues and to provide ongoing guidance for management of Clay Pit SVRA. Goals and guidelines can be implemented to achieve the long-term vision for the SVRA. The goals establish the purpose and the desired future conditions of the SVRA, while the guidelines provide the direction that the OHMVR Division will consider to achieve these goals. Parkwide goals and guidelines were developed to apply across Clay Pit SVRA. Use area goals and guidelines were developed specific to proposed use areas to provide guidance for specialized management by area.

This section provides a list of the goals proposed in Clay Pit SVRA General Plan. Please refer to Chapter 4.0 of the General Plan for the complete text of proposed goals and guidelines. Section 4.4.1 of the General Plan presents the parkwide goals and guidelines, and Section 4.4.2 presents the use area goals and guidelines.

Parkwide Goals

Visitor Experience and Opportunities (VEO)

- **VEO Goal 1:** When planning for recreation opportunities and visitor services provide a broad range of OHV recreation experiences and opportunities for visitors to enjoy and appreciate.
- **VEO Goal 2:** Provide state of the art visitor serving facilities to enhance the visitor experience.
- **VEO Goal 3:** Enhance individual-, family-, and community-centered recreational opportunities.

Natural Resources Management (NRM)

- **NRM Goal 1:** Manage the SVRA for a balance of uses that allow protection of natural resources while maintaining a quality OHV recreational experience.
- **NRM Goal 2:** Encourage a balance of uses within Clay Pit SVRA that allow the restoration or enhancement of natural habitats while maintaining a quality OHV recreational experience.

Soils Management (Soils)

- **Soils Goal 1:** Manage the SVRA for a balance of uses that allow protection and conservation of soil while maintaining a quality OHV recreational experience.

Plants and Natural Communities (Plants)

- **Plants Goal 1:** Manage the SVRA for a balance of uses that allow protection of special-status plants and sensitive natural communities while maintaining a quality OHV recreational experience.

Wildlife

- **Wildlife Goal 1:** Manage the SVRA for a balance of uses that allow protection of native wildlife species, including special-status wildlife species, while maintaining a quality OHV recreational experience.

Water Quality and Supply (Water)

- **Water Goal 1:** Manage the SVRA for the protection of jurisdictional waters of the United States, including wetlands, while maintaining a quality OHV recreational experience.
- **Water Goal 2:** Manage the SVRA for the protection of water quality while maintaining a quality OHV recreational experience.
- **Water Goal 3:** Manage the SVRA to conserve water resources while maintaining a quality OHV recreational experience.
- **Water Goal 4:** Anticipate flooding issues when planning for the development of the SVRA.

Cultural Resource Management (CR)

- **CR Goal 1:** Preserve and protect significant cultural sites and features.

Interpretation and Education (IE)

- **IE Goal 1:** Provide interesting and educational interpretive materials that address the SVRA's sense of place and history and meet the needs and interests of the visitor population.

- **IE Goal 2:** Increase visitors' knowledge of, and appreciation for, recreational opportunities at the SVRA and in the region.
- **IE Goal 3:** Expand understanding of ecological relationships and heighten awareness of, and sensitivity to, human impacts.
- **IE Goal 4:** Promote safe and responsible OHV recreation.

Operations and Management (OM)

- **OM Goal 1:** Provide visitor services and infrastructure that encourage use of Clay Pit SVRA and meet visitor needs.
- **OM Goal 2:** Maintain and enhance the quality of OHV recreational opportunities.
- **OM Goal 3:** Provide facilities and services that contribute to the safety and convenience of visitors and staff.
- **OM Goal 4:** Coordinate with special event sponsors to ensure special events are well managed and that appropriate visitor services are available.
- **OM Goal 5:** Develop and maintain SVRA facilities and monitor OHV activities to ensure compatibility with surrounding land uses.
- **OM Goal 6:** Reduce potential air quality impacts that could result from construction, maintenance, and OHV recreation activities.

Visitor Management (VM)

- **VM Goal 1:** Establish and implement an adaptive management process for managing visitor capacity at Clay Pit SVRA in support of the SVRA's purpose and vision.

Use Area Goals and Guidelines

Developed Use Area (DU)

The primary management intent for the Developed Use Area is to accommodate the more intense uses and built facilities envisioned at Clay Pit SVRA.

- **DU Goal 1:** Enhance OHV activities at the SVRA by providing developed recreation facilities and support facilities.
- **DU Goal 2:** Enhance the appearance of the SVRA and ensure compatibility with adjacent land uses.
- **DU Goal 3:** Protect water quality while developing additional OHV recreation opportunities at the SVRA.

Open OHV Recreation Area

The primary management intent of the Open OHV Recreation Area is to continue to provide informal open OHV recreation and trail use while preserving natural resources. Generally, this area will be left in its current state and will continue to be used for multipurpose OHV use.

- **ORA Goal 1:** Enhance visitor enjoyment of the SVRA by continuing to provide areas for open riding with support facilities.

Drainage Management Area (DMA)

Runoff from the upstream and adjacent Oroville Municipal Airport, Larkin Road, Table Mountain Golf Course, the Open OHV Recreation Area, and the Developed Use Area that enters the Drainage Management Area could contain pollutants and sediments that would degrade water quality of the drainage canal, which crosses the SVRA and drains to the remnant Feather River oxbow to the east of the SVRA. Best management practices (BMPs) can improve water quality, which is crucial to sustaining healthy aquatic habitats and maintaining safe conditions for visitors.

- **DMA Goal 1:** Develop a parkwide water quality management plan to address the quality of all surface waters entering the SVRA, traveling through the SVRA, and leaving the SVRA through the Drainage Management Area.
- **DMA Goal 2:** Implement actions within the Drainage Management Area to improve water quality and to meet water quality standards.

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TABLE 2-1. USE AREA MATRIX

TOPICS	DEVELOPED USE AREA	OPEN OHV RECREATION AREA	DRAINAGE MANAGEMENT AREA
Description	The Developed Use Area contains desirable topographic features for OHV use and fewer sensitive natural resources than other parts of Clay Pit SVRA.	The Open OHV Recreation Area has fewer desirable topographic features and a higher density of natural resources.	The Drainage Management Area bisecting Clay Pit SVRA contains a linear drainage and several pond features which dry up during the hot summer months.
Primary Management Intent	The primary management intent for the Developed Use Area is to accommodate the more intense uses and built facilities envisioned at Clay Pit SVRA.	The primary management intent for the Open OHV Recreation Area is to continue to provide informal open OHV recreation and trail use while preserving natural resources.	The primary management intent for the Drainage Management Area is to allow for recreational enjoyment of this feature while preventing water quality degradation and soil loss.
Intended Activities	It is a well suited area for built facilities such as parking lots, OHV tracks, and 4X4 obstacles.	Generally, this area will be left in its current state and will continue to be used for multi-purpose OHV use.	This use area will be actively managed to address water quality issues related to this drainage.
Facilities (proposed and anticipated)	Facilities suitable in the Developed Use Area include an entry area; a headquarters building; maintenance facilities; developed OHV facilities such as tracks, trails, a 4X4 play area, and obstacle course; accompanying staging facilities such as restrooms and picnic areas; and educational facilities such as interpretive displays or an outdoor classroom area.	Facilities suitable in the Open OHV Recreation Area include marked or developed trails, informal trails, unpaved staging areas, accompanying staging facilities such as restrooms and picnic areas, and educational facilities such as interpretive displays or an outdoor classroom area. Developed tracks, paving, and other built facilities are not suitable in this use area.	This use area is not appropriate for developed facilities. Drainage crossings may be constructed, which could include culverts, bridges, or other circulatory management features.
Natural Resources	Sensitive natural resources in this area include a linear drainage feature bisecting the site and a few scattered vernal pools.	Sensitive natural resources in this area include a large number of vernal pools scattered throughout, many of which are known to support special-status invertebrate species.	This area contains recreational and natural features that change depending on climatic conditions. During the wet months, this area conveys and ponds large amounts of water. During the dry season, this area does not sustain water.
Typical Visitor Activities	Visitor activities in the Developed Use Area may include the use of MX track(s), ATV track(s), obstacle courses, hill climbs, mud pits, marked and developed trails, informal trails, staging areas, picnic areas, educational programs and exhibits, and other built facilities. Overnight use is limited to special event permits.	Visitor activities in the Open OHV Recreation Area may include the use of marked and developed trails, informal trails and open OHV use areas, staging areas, picnic areas, and educational programs and exhibits. Overnight use is limited to special event permits.	Visitor activities in the Drainage Management Area depend upon the season. Use will be managed according to water quality and soil loss management requirements.
Public Access	Visitors will be able to access facilities within the Developed Use Area via roadways that may be constructed between Clay Pit SVRA entrance and the various developed use facilities. Informal trails or developed trails may be created throughout this use area.	Generally, access to the Open OHV Recreation Areas will be limited to OHVs and pedestrians. From the staging areas where most street vehicles will park, visitors will be able to ride throughout this use area along existing informal trails, potential future marked trails, or in open terrain.	This area will be accessible by two roads and by informal trails. Driving within the drainage will be limited to designated crossings.

Source: AECOM 2010

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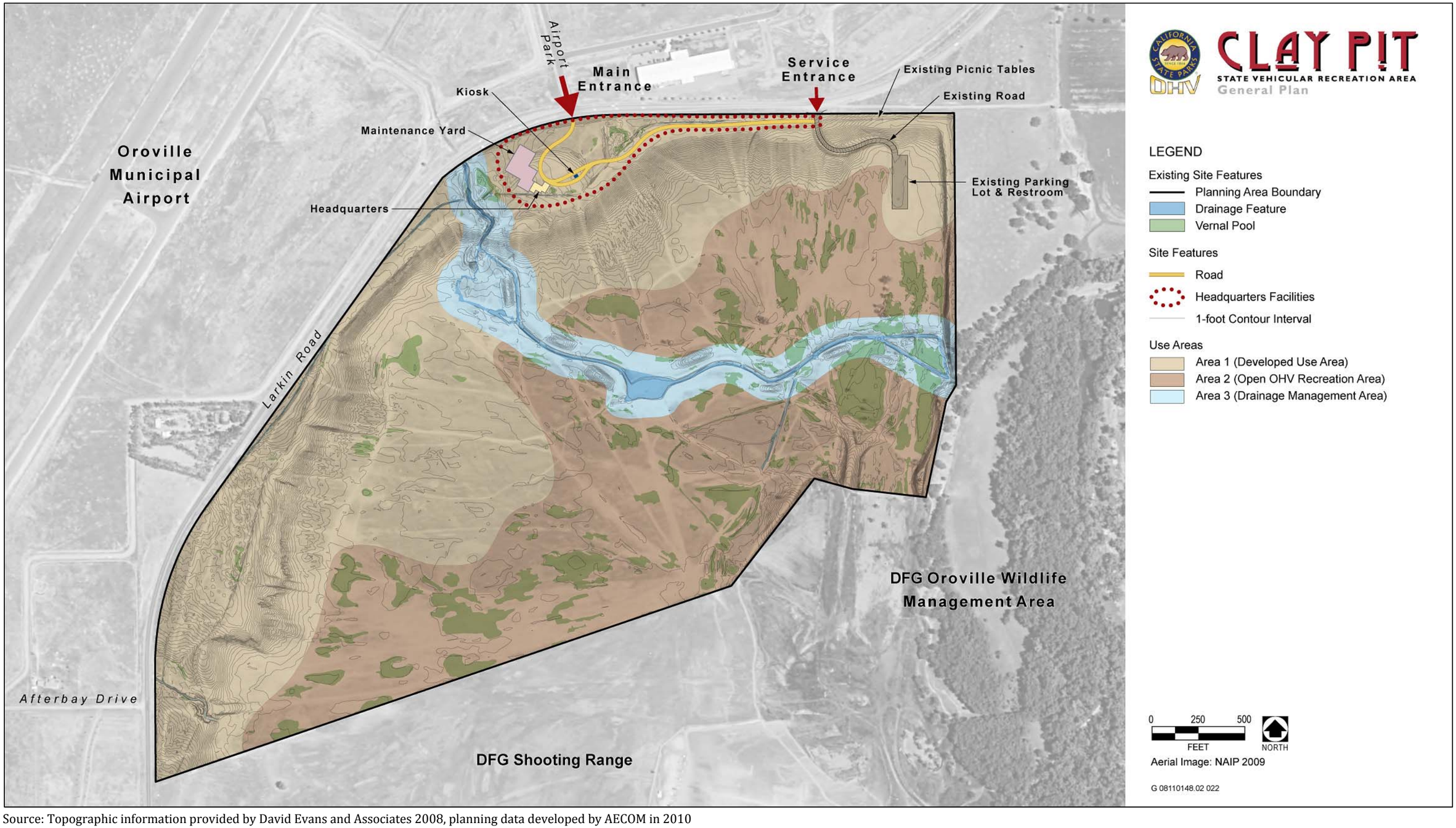

Source: Topographic information provided by David Evans and Associates 2008, planning data developed by AECOM in 2010

Use Areas and Headquarters Facilities **Figure 2-3**

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Chapter 3.0 – Environmental Analysis

This chapter provides a programmatic analysis of the potential environmental impacts resulting from implementation of the proposed Clay Pit SVRA General Plan, as well as a project-level analysis of construction and operation of the headquarters facilities. These two components are closely linked because construction of the headquarters facilities is a first step in implementing the vision and goals of the General Plan. As described in Chapter 1.0 "Introduction," the approach to the environmental analysis of the General Plan is programmatic because the General Plan presents a framework for future management and park development. Because the proposed characteristics and design of the headquarters facilities are available, implementation of this part of the Clay Pit SVRA General Plan is analyzed at a project-level.

The programmatic General Plan impact analyses address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. Implementing all aspects of the General Plan, including constructing and operating the headquarters facilities, has the potential to result in impacts to a wider array of environmental resources than constructing and operating the headquarters facilities alone. Therefore, the analysis in this EIR assumes that if a particular impact determination for the General Plan as a whole is less than significant, then the determination related to the same effect for the headquarters facilities is also less than significant. However, in those instances when constructing or operating the headquarters facilities would result in unique impacts (i.e., potential impacts different from those that could be caused by implementing the rest of the General Plan), or if additional detail is needed to meet the expectations of a project-level analysis, impact statements specific to the headquarters facilities are provided.

Chapter 4.0 of the General Plan, "The Plan," serves as the project description for this DEIR as described in Chapter 2.0 of this DEIR. In addition, because much of the project description is at a programmatic level of detail (i.e., lacking the detail that will be available when specific projects are proposed), assumptions about the results of implementing the proposed project were made in order to conduct this CEQA analysis. These assumptions and other project details are summarized in Appendix B.

Similarly, Chapter 2.0 of the General Plan, "Existing Conditions," provides much of the physical and regulatory setting information used for the environmental analyses presented in this DEIR, and is hereby incorporated by reference consistent with State CEQA Guidelines Section 15150. Chapter 2.0 of the General Plan, "Existing Conditions," describes the geographical, physical, and management setting, including resource conditions and planning influences. This information is summarized at the beginning of each resource section in this DEIR. Generally, setting information relevant to the General Plan is provided therein, while supplemental setting information relevant to the environmental analysis is provided in this DEIR.

Other regional planning documents relevant to planning efforts at the Clay Pit SVRA (e.g. the Butte County General Plan) have used year 2030 as the end of their planning horizon, so year 2030 was also selected for analysis purposes in this DEIR. Using a 2030 planning horizon assumes that the Clay Pit SVRA General Plan would have a lifespan of approximately 20 years, which is a typical lifespan for a general plan.

The structure of each environmental issue analysis is similar, starting with a discussion of the existing environmental setting, followed by a programmatic discussion of potentially significant adverse effects resulting from implementation of the Clay Pit SVRA General Plan, followed by an assessment of project-level impacts specific to the headquarters facilities, where applicable.

Each issue analysis includes the following sections:

- **Existing Setting**: This section describes the existing condition of the environmental issue being analyzed.
- **Regulatory Setting**: This section describes the applicable federal, state, regional and local regulations related to the environmental issue being analyzed.
- **Thresholds of Significance**: Thresholds for analysis are independently determined by considering the regional context and the setting. This section presents the guidelines used to identify how an impact is to be judged for each issue area in this EIR specific to Clay Pit SVRA.
- **Environmental Evaluation**: This section presents the analysis of each specific environmental issue area and identifies any potentially significant environmental impacts that would result or explains why an impact would not occur.
- **Summary of Significant Impacts**: Potentially significant impacts identified in the Environmental Evaluation are summarized in this section.
- **Mitigation Measures**: This section identifies mitigation measures that would be required to mitigate each impact found to be significant.

3.1 Transportation and Traffic

This section presents details about the existing setting and the regulatory setting for transportation and traffic. It also presents an analysis of the transportation and traffic impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.1.1 Existing Setting

Study Area

The 220-acre Clay Pit SVRA provides an open riding area for motorcycle, all-terrain vehicle, and four-wheel-drive recreationists. The SVRA is located approximately 2 miles west of SR 70 and 1 mile south of SR 162 in the Oroville area. The SVRA is adjacent to the east side of the Oroville Municipal Airport. It is accessed via one roadway connection to Larkin Road approximately 1 mile south of SR 162. Figure 3.1-1 displays the location of Clay Pit SVRA and the surrounding circulation system.

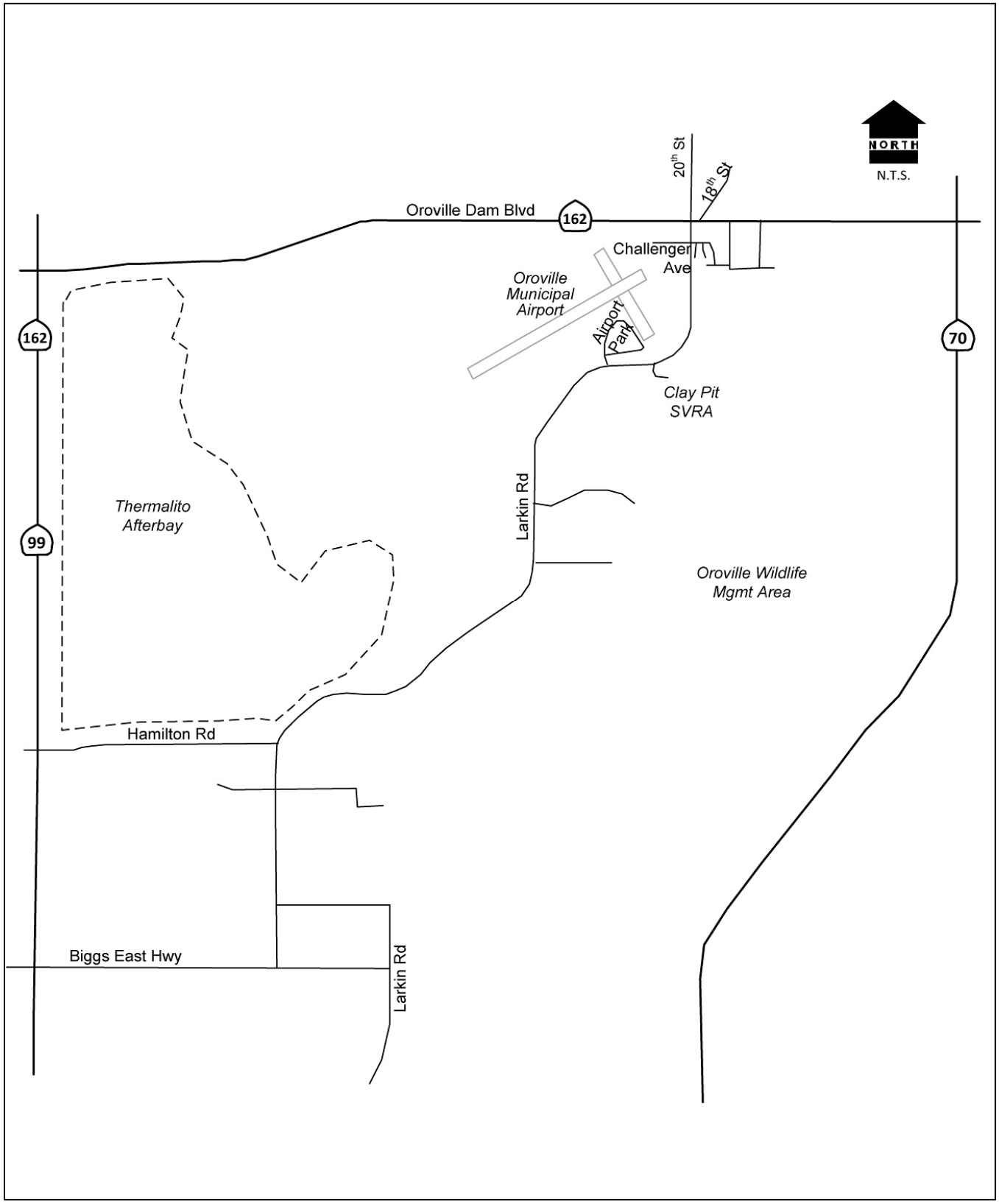
The study area includes intersections and roadway segments near Clay Pit SVRA and those connected to the SVRA site. The traffic analysis investigates the operational characteristics of the following intersections and roadway segments:

- SR 162 (Oroville Dam Boulevard) intersection/SR 99,
- SR 162/Larkin Road intersection,
- Challenger Avenue/Larkin Road intersection,
- Clay Pit SVRA access/Larkin Road,
- Airport Park/Larkin Road intersection,
- Hamilton Road/Larkin Road intersection,
- SR 162 east and west of Larkin Road, and
- Larkin Road north| and south of Clay Pit SVRA access and south of Hamilton Road.

Regional Access

State Route 162

SR 162 (also called Oroville Dam Boulevard in the Oroville area) extends across Glenn and Butte Counties and provides east-west circulation between Interstate-5, SR 99, and SR 70. East of SR 99, SR 162 provides access to the greater Oroville area and the recreational areas surrounding Lake Oroville. Regional and local traffic associated with commercial uses travel along the SR 162 corridor in the Oroville area. Within the study area, SR 162 is a conventional two-lane highway and carries approximately 3,000 daily vehicles west of Larkin Road, with volumes increasing to approximately 8,500 daily vehicles from Larkin Road east to SR 70. East of Larkin Road, a



Source: KD Anderson & Associates 2010

Vicinity Map **Figure 3.1-1**

continuous two-way, center turn lane is provided along the highway to the Feather River Bridge just west of the SR 70 interchange.

SR 162 provides 12-foot-wide travel lanes and 6- to 8-foot-wide shoulders. The posted speed limit through the study area is 45 miles per hour (mph), decreasing to 35 mph to the east near SR 70. No sidewalks are provided along the roadway within the study area. SR 162 is controlled by traffic signals at the SR 99 intersection and at the SR 70 interchange.

Larkin Road

Larkin Road is generally a two-lane rural roadway extending from SR 162 in the north to Eager Road in the south, just to the north of Yuba City. Within the study area, Larkin Road is classified as a two-lane arterial and has a 55-mph speed limit. Immediately south of SR 162, Larkin Road has been widened to a three-lane facility along a portion of the Oroville Municipal Airport property. Larkin Road is stop-sign controlled at SR 162 and continues to the north of the highway as 20th Street. Existing traffic volumes on Larkin Road range from 2,700 daily vehicles south of Hamilton Road to 4,500 daily vehicles south of SR 162.

The north end of Larkin Road, north and south of the Challenger Avenue intersection, has been improved with a curb, gutter, and sidewalk. To the south, near the study area, the two-lane rural road has 12-foot-wide travel lanes and 2- to 4-foot-wide graded shoulders. A portion of the facility has been improved to provide 6- to 8-foot-wide paved shoulders adjacent to the Thermalito Afterbay. Pavement conditions on Larkin Road past the study area are judged to be good.

Challenger Avenue

Challenger Avenue intersects Larkin Road approximately 600 feet south of SR 162 and provides access to the Oroville Municipal Airport. The roadway is stop-sign controlled at Larkin Road.

Airport Park

Airport Park provides access to industrial development at the Oroville Municipal Airport. The roadway is stop-sign controlled at Larkin Road. Left- and right-turn channelization is provided on Larkin Road at the Airport Park intersection.

Hamilton Road

Hamilton Road extends from Larkin Road in the east to past SR 99 in the west. The roadway is stop-sign controlled at Larkin Road and SR 99. The roadway has 10- to 11-foot-wide travel lanes and no shoulders. Pavement condition is judged to be poor and in need of resurfacing.

On-Site Circulation

Larkin Road provides direct access to Clay Pit SVRA. The SVRA is served by one access road located approximately 1 mile south of SR 162 and 1,000 feet east of the Airport Park/Larkin Road intersection. Paved approach tapers are provided on Larkin Road at the SVRA access road. The access road is controlled by a stop sign at the approach to Larkin Road. No left-turn channelization is provided on Larkin Road at the existing entrance to Clay Pit SVRA.

The paved access road into Clay Pit SVRA extends for a short distance into the park and leads to a parking area, picnic tables, and restrooms in the northeast corner of the site. The access road is gated to restrict vehicles from entering the park after hours. Beyond the parking area, internal vehicle circulation consists of informal open terrain across the entire site.

Existing Operations

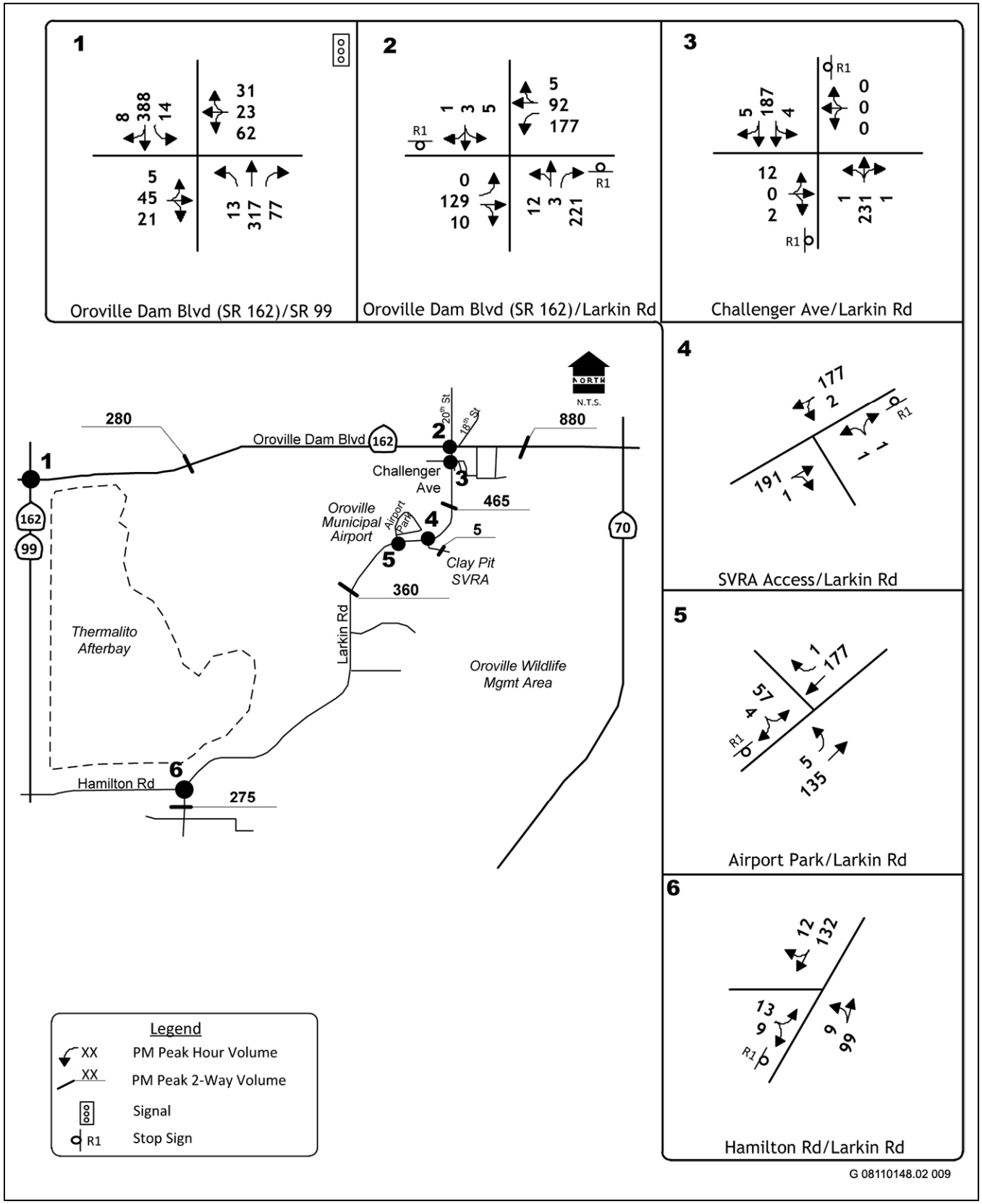
Figures 3.1-2 and 3.1-3 display the existing peak-hour volumes calculated for the intersections and roadways studied for this analysis. Traffic counts were conducted in April 2010 and consisted of roadway counts during a 24-hour period and intersection counts during the peak hours. Traffic at the intersections was counted in 2-hour intervals to isolate the volumes for the weekday p.m. peak hour and Saturday afternoon peak hour. Counts were conducted during clear-weather conditions.

The quality of traffic flow through intersections and on individual roadway segments is described in terms of operating levels of service (LOS). LOS is a qualitative measure of traffic operating conditions whereby a letter grade, A through F, corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment. Table 3.1-1 presents the characteristics associated with each LOS grade.

Tables 3.1-2 and 3.1-3 summarize existing peak-hour intersection and roadway LOS in the study area. As shown in Table 3.1-2, all approaches to each of the stop-sign controlled intersections are designated satisfactory, LOS A through C, during both the weekday and Saturday peak hours. The unsignalized intersections convey acceptable peak-hour volumes, and thus traffic signals do not need to be installed. Similarly, the signalized SR 162/SR 99 intersection is designated satisfactory, LOS B, during both the weekday and Saturday peak traffic hours.

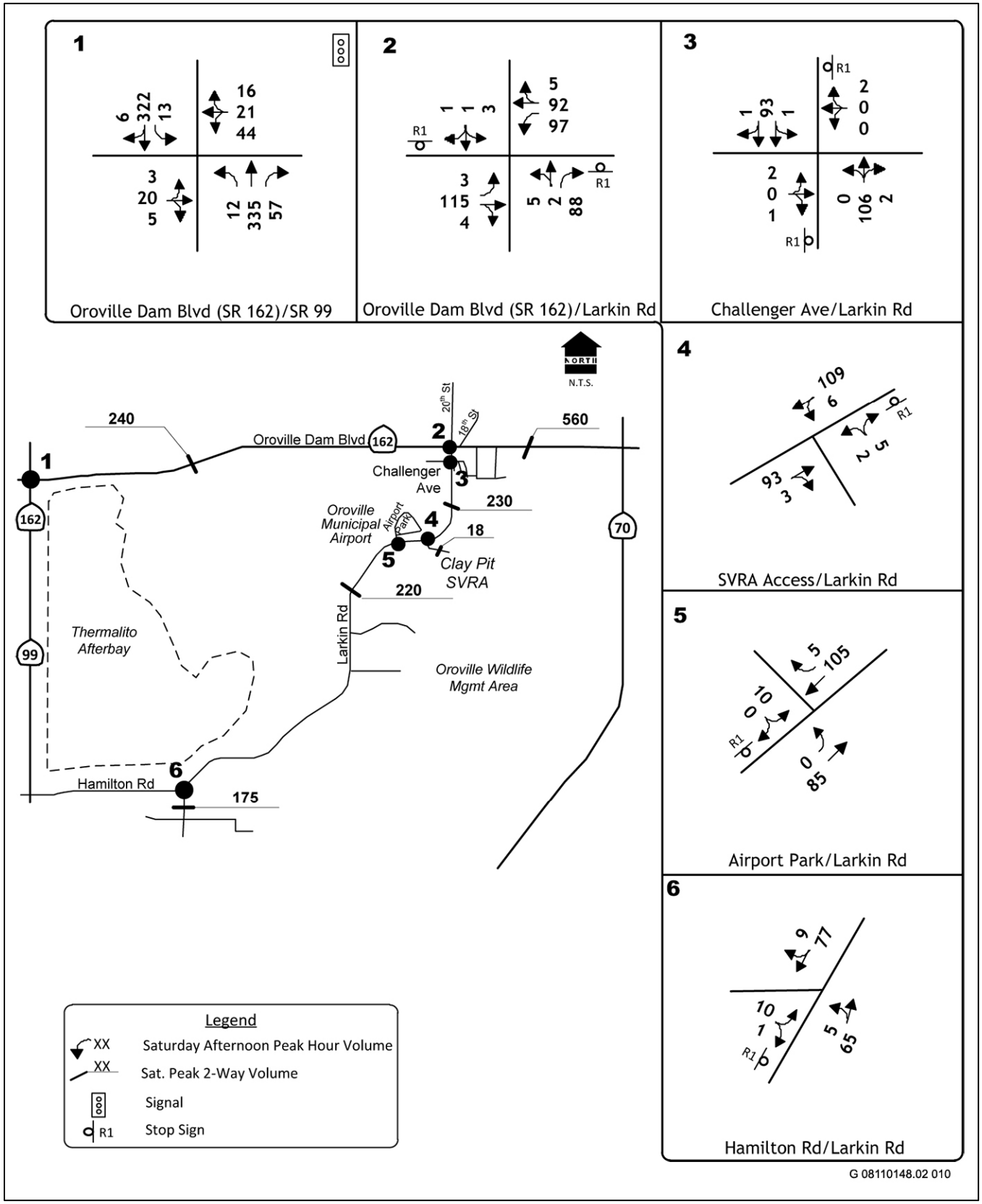
The Larkin Road access to Clay Pit SVRA currently experiences satisfactory LOS A to B operations. The relatively low volume of existing traffic turning left into the site does not warrant left-turn channelization on Larkin Road.

Table 3.1-3 summarizes existing peak-hour operations on the roadways in the study area. As shown, all study area roadways experience satisfactory LOS A through C operations during the weekday and on Saturday.



Source: KD Anderson & Associates 2010

Existing Weekday PM Peak Hour Traffic Volumes and Lane Configurations **Figure 3.1-2**



Source: KD Anderson & Associates 2010

Existing Saturday Afternoon Peak Hour Traffic Volumes and Lane Configurations **Figure 3.1-3**

TABLE 3.1-1. DEFINITION OF LEVEL OF SERVICE

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
A	Uncongested operations, all queues clear in a single-signal cycle. Delay <10.0 sec	Little or no delay. Delay <10 sec/veh	Completely free flow.
B	Uncongested operations, all queues clear in a single cycle. Delay >10.0 sec and <20.0 sec	Short traffic delays. Delay >10 sec/veh and <15 sec/veh	Free flow, presence of other vehicles noticeable.
C	Light congestion, occasional backups on critical approaches. Delay >20.0 sec and <35.0 sec	Average traffic delays. Delay >15 sec/veh and <25 sec/veh	Ability to maneuver and select operating speed affected.
D	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay >35.0 sec and <55.0 sec	Long traffic delays. Delay >25 sec/veh and <35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
E	Severe congestion with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay >55.0 sec and <80.0 sec	Very long traffic delays, failure, extreme congestion. Delay >35 sec/veh and <50 sec/veh	At or near capacity, flow quite unstable.
F	Total breakdown, stop-and-go operation. Delay >80.0 sec	Intersection blocked by external causes. Delay >50 sec/veh	Forced flow, breakdown.

Notes: sec = seconds; sec/veh = seconds per vehicle.
Source: Transportation Research Board 2000

TABLE 3.1-2. EXISTING INTERSECTION LEVELS OF SERVICE

Location	Control	Weekday PM Peak Hour		Saturday Afternoon	
		LOS	Average Delay[1]	LOS	Average Delay[1]
SR 162/SR 99	Signal	B	17.6	B	15.0
SR 162/Larkin Road					
WB left turn		A	8.1	A	7.7
EB left turn	NB, SB stop	A	7.5	A	7.5
SB approach		C	23.0	B	13.1
NB approach		B	11.5	A	9.7
Challenger Ave/Larkin Road					
NB left turn		A	7.7	A	7.4
SB left turn	EB, WB stop	A	7.9	A	7.5
Eastbound approach		B	12.6	A	9.5
Westbound approach		B	11.6	A	9.1
Larkin Road/OHV Access					
SB left turn	WB stop	A	7.7	A	7.5
WB approach		B	10.5	A	9.1
Larkin Road/Airport Park					
NB left turn	EB stop	A	7.7	A	7.5
EB approach		B	11.7	A	9.7
Larkin Road/Hamilton Road					
NB left turn	EB stop	A	7.6	A	7.4
EB approach		B	10.0	A	9.4

Notes: EB = eastbound; LOS = levels of service; NB = northbound; OHV = off-highway vehicle; SB = southbound; SR = State Route; WB = westbound.
[1] Delays measured in seconds.
Source: KD Anderson & Associates 2010

TABLE 3.1-3. EXISTING ROADWAY LEVELS OF SERVICE

Location	Number of Lanes	LOS Standard	Weekday			Saturday		
			Peak-Hour Volume	V/C	LOS	Peak-Hour Volume	V/C	LOS
SR 162								
West of Larkin Road	2	D	280	0.15	A–C	240	0.13	A–C
East of Larkin Road	2	D	880	0.47	A–C	560	0.30	A–C
Larkin Road								
South of Challenger Ave.	3	D	465	0.25	A–C	230	0.12	A–C
South of Airport Park	2	D	360	0.19	A–C	220	0.12	A–C
South of Hamilton Road	2	C	275	0.15	A–C	175	0.09	A–C

Notes: EB = eastbound; LOS = levels of service; NB = northbound; SB = southbound; SR = State Route; V/C = volume-to-capacity; WB = westbound.
Source: KD Anderson & Associates 2010

3.1.2 Regulatory Setting

This section describes additional planning and regulatory information related to transportation to supplement information provided in Section 2.7, "Planning Influences," of the General Plan. No federal plans, policies, regulations, or laws related to transportation and traffic apply to Clay Pit SVRA. Other state and regional plans, policies, regulations, and laws related to traffic and transportation are summarized below.

State Plans, Policies, Regulations, and Laws

The California Department of Transportation's (Caltrans's) Transportation Concept Reports (TCRs) identify long-range improvements for specific state highway corridors. These reports establish the "concept" or desired LOS for corridor segments and identify long-range improvements necessary to allow existing facilities to adequately serve the 20-year traffic forecasts. Caltrans has published TCRs for all of the state facilities in Butte County, including SR 162 (Caltrans 2004).

Regional Plans, Policies, Regulations, and Ordinances

Clay Pit SVRA is owned by the State of California and is not subject to compliance with local land use plans. However, it is the intent of the OHMVR Division to develop the SVRA in a manner compatible with planning values expressed by the surrounding community. In addition, LOS standards outlined in the Butte County General Plan and the City of Oroville General Plan are

relevant for planning purposes and appropriate for use as thresholds. Relevant elements from these plans are briefly discussed below.

Butte County General Plan

The Circulation Element of the *Butte County General Plan 2030* (Butte County 2010) is a document intended to contain the latest information about the transportation needs of Butte County and the various modes available to meet these needs. The Circulation Element addresses the safe and efficient movement of people and goods in and around the county. The element provides roadway standards, classifications, and goals for acceptable operating conditions and LOS.

City of Oroville General Plan

Similarly, the Circulation Element of the *City of Oroville 2030 General Plan* (City of Oroville 2009) is a document intended to contain the latest information about the transportation needs of the City of Oroville and its sphere of influence (SOI) and the various modes available to meet these needs. The element provides roadway standards; roadway classifications; and goals, policies, and actions for acceptable operating conditions and LOS.

3.1.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to transportation and traffic if it would:

- conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel, and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access; or
- conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

A traffic impact is considered significant if it renders an unacceptable LOS on a street segment, at a signalized intersection, or at a stop-sign controlled intersection or if it worsens already unacceptable conditions. Local jurisdictions and Caltrans adopt minimum LOS standards for use in traffic studies and environmental impact reports. For the purposes of this analysis, an impact would be significant if it would be inconsistent with the following plans and report:

- The *City of Oroville 2030 General Plan,* Policy P2.1, states that the City will allow a minimum operating standard of LOS D throughout the city.
- The *Butte County General Plan2030,* Policy CIR-P6.1, states that the LOS for Butte County–maintained roads within unincorporated areas of the county but outside municipalities' SOI shall be LOS C or better during the p.m. peak hour. Within a municipality's SOI, the LOS shall meet the municipality's LOS policy.
- In Caltrans's SR 162 TCR, the 20-year concept for SR 162 is a two-lane conventional highway from the Glen County line to Wilbur Road, east of SR 99. East of Wilbur Road, the 20-year concept is a four-lane conventional highway. The identified concept LOS in this area is LOS D.

Based on the documents reviewed, this analysis uses an LOS D operating threshold for SR 162 and the majority of Larkin Road within the study area. Larkin Road is within the Oroville city limits adjacent to the airport and the Oroville SOI extends farther south on Larkin Road to the Thermalito Afterbay. Beyond this point, Larkin Road and the Hamilton Road/Larkin Road intersection are within Butte County jurisdiction and County LOS C standard policy would apply. Implementation of the General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to transportation and traffic if traffic generated by the project would cause roadway or intersection LOS to exceed these identified standards.

At intersections controlled by side-street stop signs, a supplemental analysis is also typically used to determine whether a signal is warranted. Minor street traffic can experience significant delays when accessing a major street; however, side-street delays at any single approach are typically not considered significant unless side-street volumes are large enough to meet peak-hour thresholds (or warrants) for installing a traffic signal. Warrants for peak-hour traffic signals as presented in the *California Manual of Uniform Traffic Control Devices for Streets and Highways* (Caltrans 2010) were used as thresholds for this analysis.

The General Plan would not affect airport operations, and therefore, would cause no change in related safety risks. This issue is not discussed further in this DEIR.

The General Plan does not include any roadway design changes involving curves or dangerous intersections, or any changes in land use. Circulation to the project site is provided by existing streets and highways. Access to the project site is proposed via a new connection to the existing Larkin Road/Airport Park intersection, which has adequate sight distance and would be designed

and constructed according to Butte County standards. The General Plan does not pose traffic-related hazard risks, and these issues are not discussed further in this DEIR.

The General Plan would improve emergency access by creating a new access point from Larkin Road at the Airport Park intersection, while retaining the existing access as a secondary emergency access point. This issue is not discussed further in this DEIR.

The General Plan would not involve changes to any type of public transit, bicycle, or pedestrian facilities, and thus, would not conflict with any related policies or programs or affect the safety of such facilities. These issues are not discussed further in this DEIR.

3.1.4 Environmental Evaluation

Evaluation Methodology

Operating Standards

The methodology used to analyze existing intersection and roadway operations follows an approach that is recognized by members of the traffic engineering profession, is consistent with State CEQA Guidelines, and conforms to Butte County and City of Oroville guidelines for traffic impact studies. Intersections and roadway segments were selected for analysis based on their proximity to the Clay Pit SVRA access road and common direction of travel to and from the SVRA.

The *2000 Highway Capacity Manual* (Transportation Research Board 2000) presents methodologies for calculating practical capacity and LOS on roadways and at intersections. At signalized intersections and intersections controlled by all-way stop signs, traffic conditions are described in terms of the average length of the delays experienced by all motorists. Intersection configuration, traffic volumes, and traffic signal timing are all factors that enter into determining the length of average delay and the resulting LOS.

The delays experienced at intersections controlled by side-street stop signs are different. Motorists waiting to turn must yield the right-of-way to through traffic, and the length of delays can vary on each approach to the intersection. For this analysis the length of delays experienced by motorists on each approach has been calculated. Intersection operations have been quantified based on *2000 Highway Capacity Manual* procedures, consistent with Butte County, the City of Oroville, and Caltrans requirements.

Table 3.1-4 further quantifies roadway segment capacity thresholds as presented in the Circulation Element of the *Butte County General Plan 2030*. These thresholds have been used to identify the operating LOS for roadway segments in the study area.

TABLE 3.1-4. PEAK-HOUR LOS VOLUME THRESHOLDS BY FACILITY TYPE

Facility Type	Peak Hour Level of Service Capacity Threshold					
	A	B	C	D	E	F
Two-Lane Arterial	-	-	0–970	971–1,760	1,761–1,870	>1,870
Four-Lane Arterial, Undivided	-	-	0–1,750	1,751–2,740	2,741–2,890	>2,890
Major Two-Lane Collector	-	-	0–550	551–1,180	1,181–1,520	>1,520

Source: Butte County 2010; Transportation Research Board 2000

Trip Generation

To assess traffic conditions that would result from implementing the General Plan, the anticipated visitor increases at Clay Pit SVRA were forecasted. Traffic counts conducted at the access road to the SVRA in April 2010 were used as the initial basis for projecting future visitor increases. These traffic counts showed that 18 vehicles accessed the site on a weekday and 62 vehicles accessed the site on a Saturday (two-way volumes were 36 vehicles on a weekday and 124 vehicles on Saturday [Table 3.1-5]). Peak-hour traffic volumes were five vehicles on a weekday and 18 vehicles on Saturday. Visitor statistics for Clay Pit SVRA and other SVRAs with similar climate conditions indicate that April generally experiences high levels of OHV usage. Therefore, a 20% reduction was applied to these April traffic counts to estimate conservative annual average conditions for purposes of this analysis.

TABLE 3.1-5. EXISTING TRIP GENERATION FOR CLAY PIT SVRA

Weekday				Saturday			
Daily	PM Peak Hour			Daily	Peak Hour		
	In	Out	Total		In	Out	Total
36	60%	40%	5	124	55%	45%	18

Source: KD Anderson & Associates 2011

Future visitation to Clay Pit SVRA may increase as the result of a combination of several factors. The first factor considered was population growth in Butte County, because most of the SVRA's visitors come from the surrounding communities. Butte County's population is projected to increase by an approximate average annual growth of 2% through 2030 (BCAG 2010). This annual growth was applied to current visitor levels and was assumed to occur with or without implementation of the General Plan. Also considered were the OHV improvements and enhancements envisioned in the General Plan, which could attract additional visitors to the park. Visitor information for other OHV facilities that provide similar amenities, such as the Prairie City SVRA in Sacramento County, and local commercial OHV facilities, was used to estimate visitor increases. Using this combination of factors, a 50% increase in visitor attendance to Clay Pit SVRA

was estimated following construction of OHV facilities envisioned in the General Plan. This estimate was used for projecting associated traffic increases generated by the site. Employee traffic associated with developing the SVRA was also identified and incorporated into traffic projections. Because construction of the headquarters facilities would facilitate the collection of an entrance fee, traffic is expected to decrease in the short term until new OHV facilities are constructed. Therefore, trip generation following construction of the headquarters facilities was not quantified.

Table 3.1-6 summarizes the projected trip generation for Clay Pit SVRA for each of the analysis scenarios used for this environmental evaluation.

TABLE 3.1-6. PROJECTED TRIP GENERATION AT CLAY PIT SVRA

Trip Type and Condition	Weekday Trips		Saturday Trips	
	Daily	Peak Hour	Daily	Peak Hour
Existing April traffic counts (high-use month)	36	5	124	18
Existing annual average day (April counts minus 20%)	29	4	99	15
Existing Plus Project Conditions				
50% increase in attendance	15	2	50	8
Employee trips	12	3	12	2
Total project-only trips	**27**	**5**	**62**	**10**
Existing Plus Project trips	56	9	161	25
Year 2017 Plus Project Conditions				
Year 2017 No Project (only 2% annual growth in attendance)	33	5	113	17
50% increase in attendance	17	2	57	8
Employee trips	12	3	12	2
Total project-only trips	**29**	**5**	**69**	**10**
Year 2017 Plus Project trips	62	10	182	27
Year 2030 Plus Project Conditions				
Year 2030 No Project (only 2% annual growth in attendance)	43	6	147	22
50% increase in attendance	22	3	73	11
Employee trips	12	3	12	2
Total project-only trips	**34**	**6**	**85**	**13**
Year 2030 Plus Project trips	77	12	232	35

Source: KD Anderson & Associates 2011

Trip Distribution

Peak-hour traffic counts conducted at the intersection of Larkin Road with Clay Pit SVRA access road were used to identify the directional distribution of traffic. Sixty-five percent of the traffic generated by the site was observed to be heading north on Larkin Road, with 35% heading south (Table 3.1-7). This trip distribution is not projected to change significantly in the future and has been used for this analysis. Table 3.1-8 further defines the estimated regional distribution of traffic generated by the site throughout the study area. The information in Table 3.1-8 is derived from observations at study area intersections. Using the identified directional distribution, traffic volumes projected to be generated by the site were assigned to the study area street system. Figures 3.1-4 through 3.1-5 display "project only" traffic volumes (i.e., only estimated traffic volumes resulting from project implementation not including background traffic volumes) assigned to intersections and roadway segments in the study area for existing, 2017, and 2030 planning horizons.

TABLE 3.1-7. EXISTING CLAY PIT SVRA DIRECTIONAL DISTRIBUTION

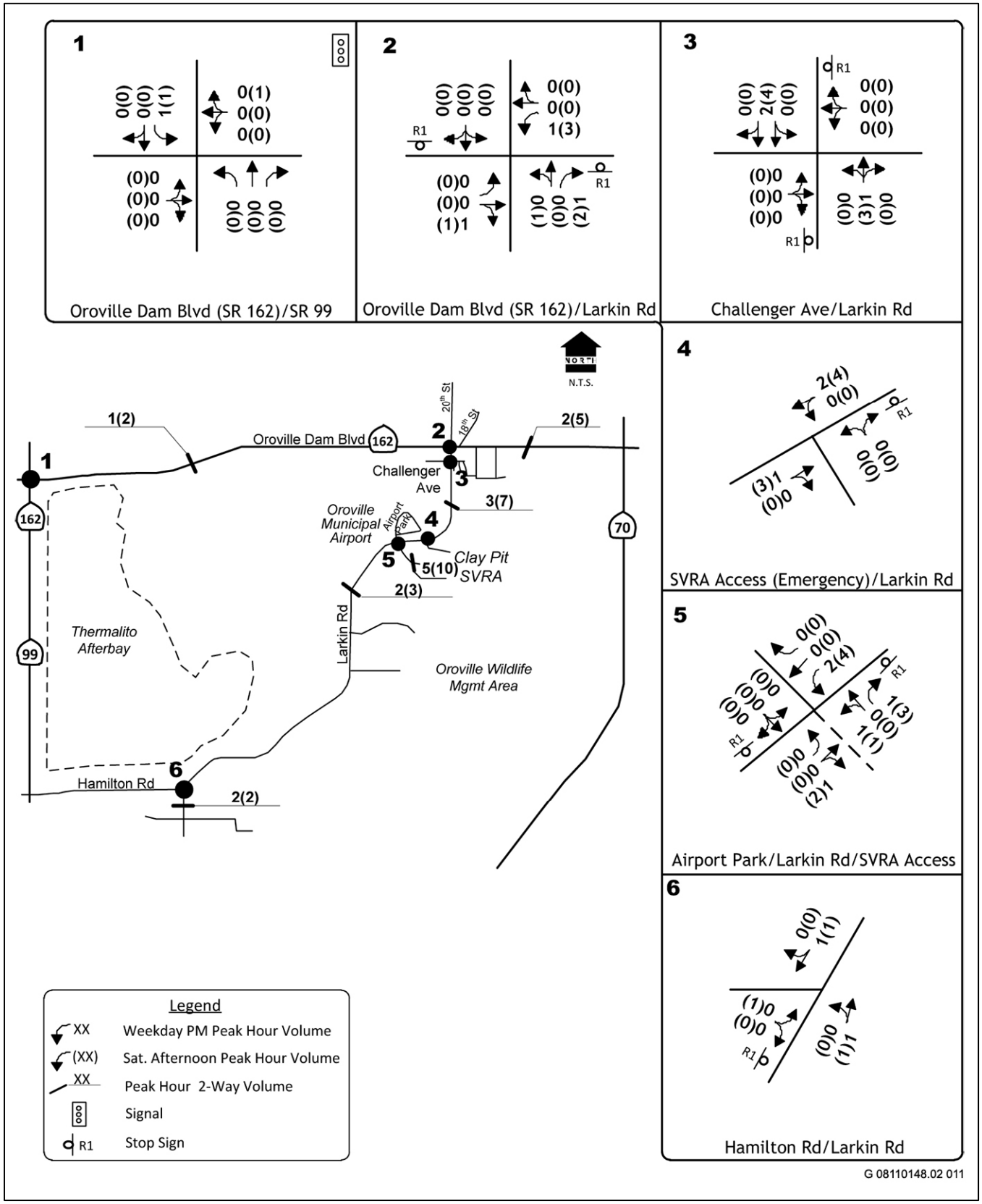
	Percent
North on Larkin Road	65%
South on Larkin Road	35%
Total	100%

Source: KD Anderson & Associates 2010

TABLE 3.1-8. ESTIMATED REGIONAL DIRECTIONAL DISTRIBUTION

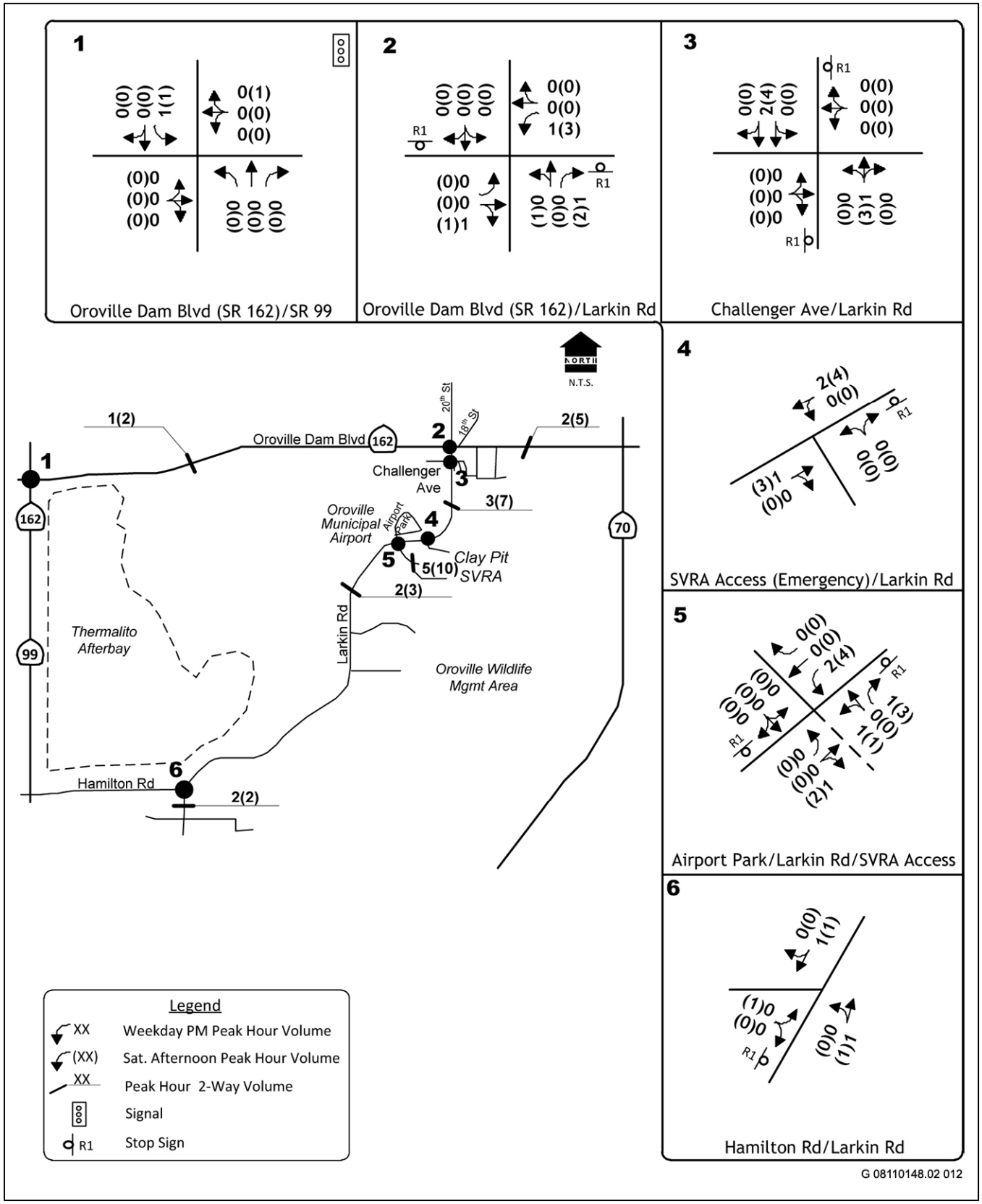
	Percent
North on SR 99 via SR 162	25%
East on SR 162	40%
West on Hamilton Road	5%
Larkin Road South of Hamilton Road intersection	30%
Total	**100%**

Note: SR = State Route.
Source: KD Anderson & Associates 2011



Source: KD Anderson & Associates 2011

Project-Generated Traffic Existing Year 2010 Peak Hour **Figure 3.1-4**



Source: KD Anderson & Associates 2011

Project-Generated Traffic Year 2017 Peak Hour **Figure 3.1-5**

General Plan Impact Analysis

Existing Plus Project Scenario

This subsection includes an analysis of projected traffic operations following implementation of the General Plan, including construction and operation of the headquarters facilities, without the estimated 2% population growth, which would occur with or without implementation of the General Plan. This scenario is theoretical because actual conditions are expected to include a 2% population growth and a resulting increase in visitors to Clay Pit SVRA. This scenario is used for analysis purposes to consider traffic impacts related only to SVRA improvements envisioned in the General Plan. These projected traffic conditions are analyzed relative to existing background traffic within the study area. Figures 3.1-6 and 3.1-7 display these Existing Plus Project traffic volumes.

IMPACT 3.1-1 Increases to Peak-Hour and Daily Traffic Volumes under Existing Plus Project Conditions

Tables 3.1-9 and 3.1-10 present the projected intersection and roadway LOS under Existing Plus Project conditions. Traffic generated by implementing the General Plan is projected to have a very minor effect on operations at the study intersections and roadways during either the weekday or Saturday peak hours. Satisfactory LOS C or better operations are projected to continue at each of the study intersections and roadways. The stop-sign controlled intersections in the study area are projected to continue to operate satisfactorily, and adding traffic signals to the intersections is not projected to be warranted.

Because projected intersection and roadway LOS remain below specified LOS thresholds, projected traffic impacts on study area intersections and roadway segments would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.1-2 Increases to Peak-Hour and Daily Traffic Volumes during Special Events

Special events are anticipated at Clay Pit SVRA following implementation of the General Plan and may include events such as motocross or ATV races and four-wheel-drive vehicle competitions. Observations of other similar SVRAs with existing developed OHV facilities were used to quantify the number of visitors estimated at special events at Clay Pit SVRA (General Plan Appendix C). These estimates indicate that vehicular volumes would be similar in magnitude to those on a typical peak Saturday (Table 3.1-6), as analyzed in this section. Therefore, further quantitative analysis of special event traffic at Clay Pit SVRA has not been conducted.

TABLE 3.1-9. INTERSECTION LEVELS OF SERVICE UNDER EXISTING PLUS PROJECT CONDITIONS

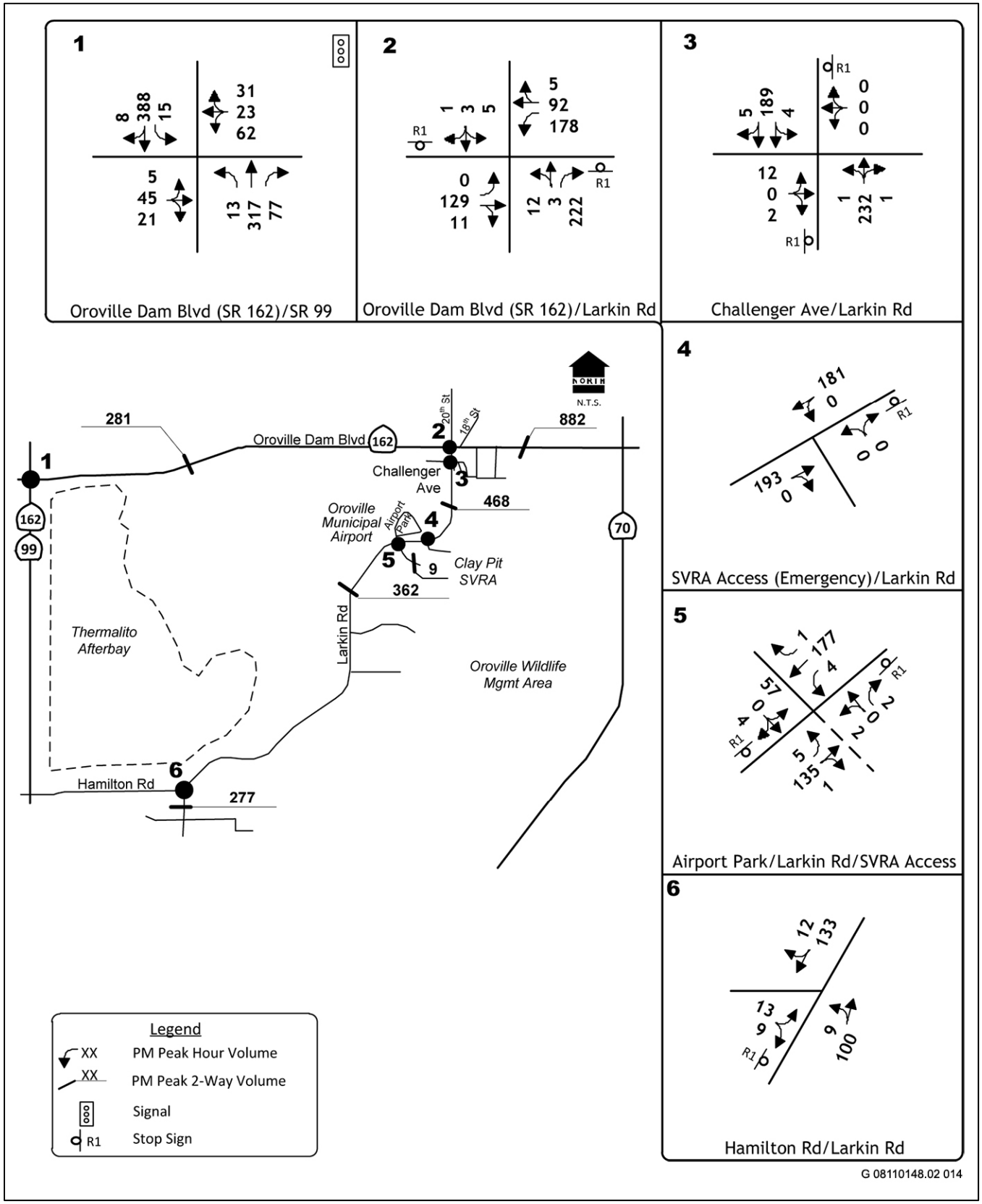
Location	Control	Existing				Existing Plus Project					
		Weekday PM Peak Hour		Saturday Afternoon		Weekday PM Peak Hour			Saturday Afternoon		
		LOS	Average Delay[1]	LOS	Average Delay[1]	LOS	Delay [1]	Increase In Delay[1]	LOS	Delay [1]	Increase in Delay[1]
SR 162/SR 99	Signal	B	17.6	B	15.0	B	17.6	0.0	B	15.1	0.1
SR 162/ Larkin Road	NB, SB stop										
WB left turn		A	8.1	A	7.7	A	8.1	0.0	A	7.7	0.0
EB left turn		A	7.5	A	7.5	A	7.5	0.0	A	7.5	0.0
SB approach		C	23.0	B	13.1	C	23.1	0.1	B	13.2	0.1
NB approach		B	11.5	A	9.7	B	11.5	0.0	A	9.8	0.1
Challenger Avenue/ Larkin Road	EB, WB stop										
NB left turn		A	7.7	A	7.4	A	7.7	0.0	A	7.4	0.0
SB left turn		A	7.9	A	7.5	A	7.9	0.0	A	7.5	0.0
Eastbound approach		B	12.6	A	9.5	B	12.6	0.0	A	9.6	0.1
Westbound approach		B	11.6	A	9.1	B	11.6	0.0	A	9.1	0.0
OHV Access/ Larkin Road	WB stop										
SB left turn		A	7.7	A	7.5	A	0.0	0.0	A	0.0	0.0
WB approach		B	10.5	A	9.1	A	0.0	0.0	A	0.0	0.0
Airport Park/ Larkin Road	EB stop										
SB left turn		-	--	-	--	A	7.6	7.6	A	7.4	7.4
WB approach		-	--	-	--	B	10.4	10.4	A	9.2	9.2
NB left turn		A	7.7	A	7.5	A	7.7	0.0	A	7.5	0.0
EB approach		B	11.7	A	9.7	B	12.5	0.8	B	10.3	0.6
Hamilton Road/ Larkin Road	EB stop										
NB left turn		A	7.6	A	7.4	A	7.6	0.0	A	7.4	0.0
EB approach		B	10.0	A	9.4	B	10.0	0.0	A	9.5	0.1

Notes: EB = eastbound; LOS = levels of service; NB = northbound; OHV = off-highway vehicle; SB = southbound; SR = State Route; WB = westbound.
1 Delays measured in seconds.
Source: KD Anderson & Associates 2011

TABLE 3.1-10. ROADWAY LEVELS OF SERVICE UNDER EXISTING PLUS PROJECT CONDITIONS

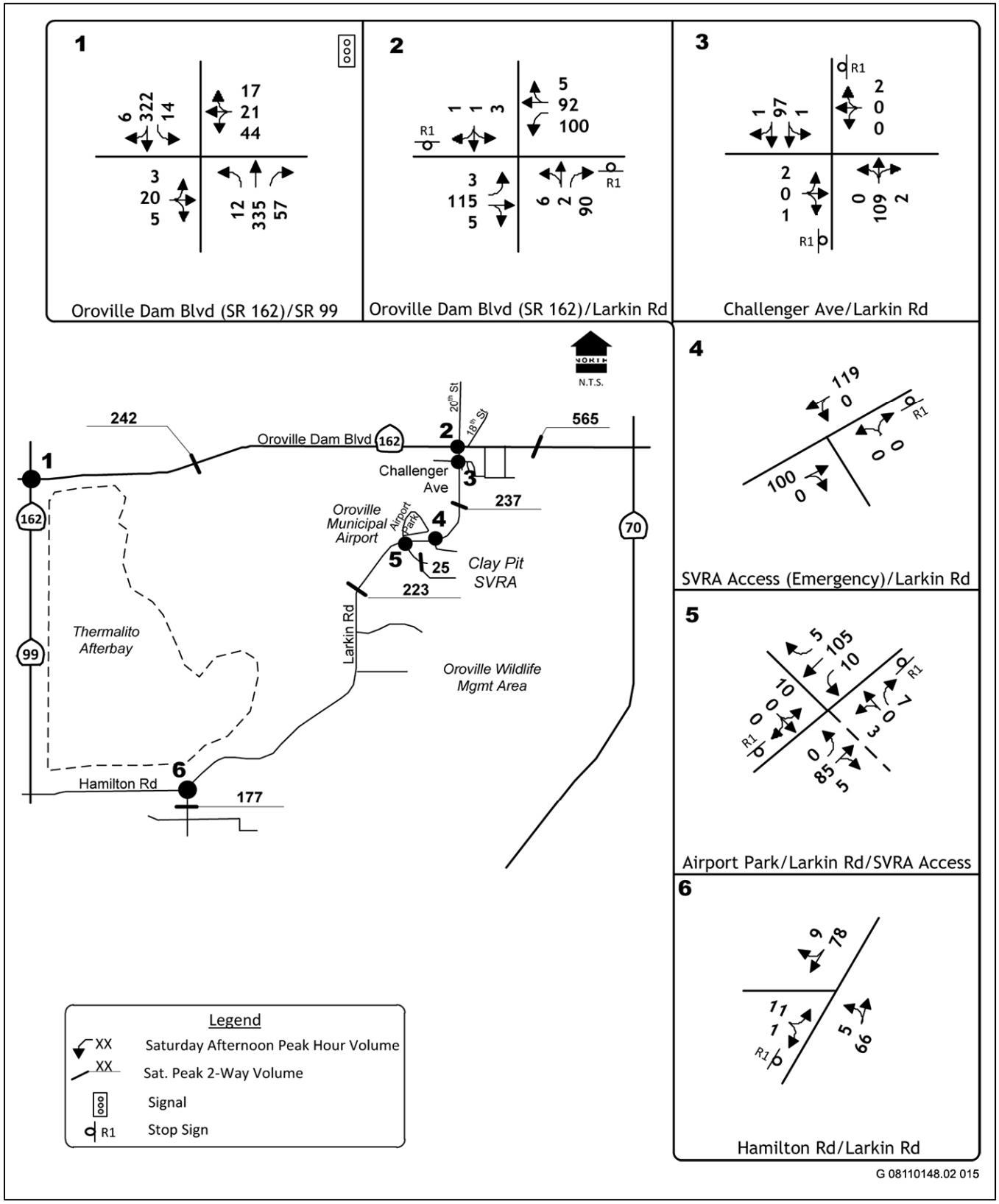
Location	Number of Lanes	LOS Standard	Existing						Existing Plus Project							
			Weekday			Saturday			Weekday				Saturday			
			Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS	Volume	V/C	LOS	Increase in V/C	Volume	V/C	LOS	Increase in V/C
SR 162																
West of Larkin Road	2	D	280	0.15	A–C	240	0.13	A-C	281	0.15	A–C	0.00	242	0.13	A–C	0.00
East of Larkin Road	2	D	880	0.47	A–C	560	0.30	A-C	882	0.47	A–C	0.00	565	0.30	A–C	0.00
Larkin Road																
South of Challenger Ave.	3	D	465	0.25	A–C	230	0.12	A-C	468	0.25	A–C	0.00	237	0.13	A–C	0.01
South of Airport Park	2	D	360	0.19	A–C	220	0.12	A-C	362	0.19	A–C	0.00	223	0.12	A–C	0.00
South of Hamilton Road	2	C	275	0.15	A–C	175	0.09	A-C	277	0.15	A–C	0.00	177	0.09	A–C	0.00

Note: LOS = levels of service; SR = State Route; V/C = volume-to-capacity ratio
Source: KD Anderson & Associates 2011



Source: KD Anderson & Associates 2011

Existing Plus Project Weekday PM Peak Hour Traffic Volumes and Lane Configurations Figure 3.1-6



Source: KD Anderson & Associates 2011

Existing Plus Project Saturday Afternoon Peak Hour Traffic Volumes and Lane Configurations

Figure 3.1-7

Other considerations associated with special events include management of on-site circulation and parking areas. Special events such as motocross races typically result in a larger proportion of visitors traveling in motor homes and/or towing large trailers. These vehicles may cause on-site parking and traffic issues if visitors park sporadically throughout the main activity areas. Unmanaged parking could result in safety concerns for pedestrian traffic moving though the area and could result in obstructed emergency access.

General Plan OM Goal 4 and associated Guidelines 4.2, 4.3, and 4.4 address these issues. A special event permit from the OHMVR Division would be required for any event sponsor holding a special event that would bring a certain density of visitors to Clay Pit SVRA. Each special event permit would be individually reviewed by OHMVR Division staff. Through the permit review process, traffic and parking control measures would be considered and required, as necessary, as conditions of approval for the permit.

With parking and traffic control measures required as part of obtaining a special event permit, potential traffic and parking impacts associated with a special event at Clay Pit SVRA would be ***less than significant***.

Mitigation Measures: No mitigation is required.

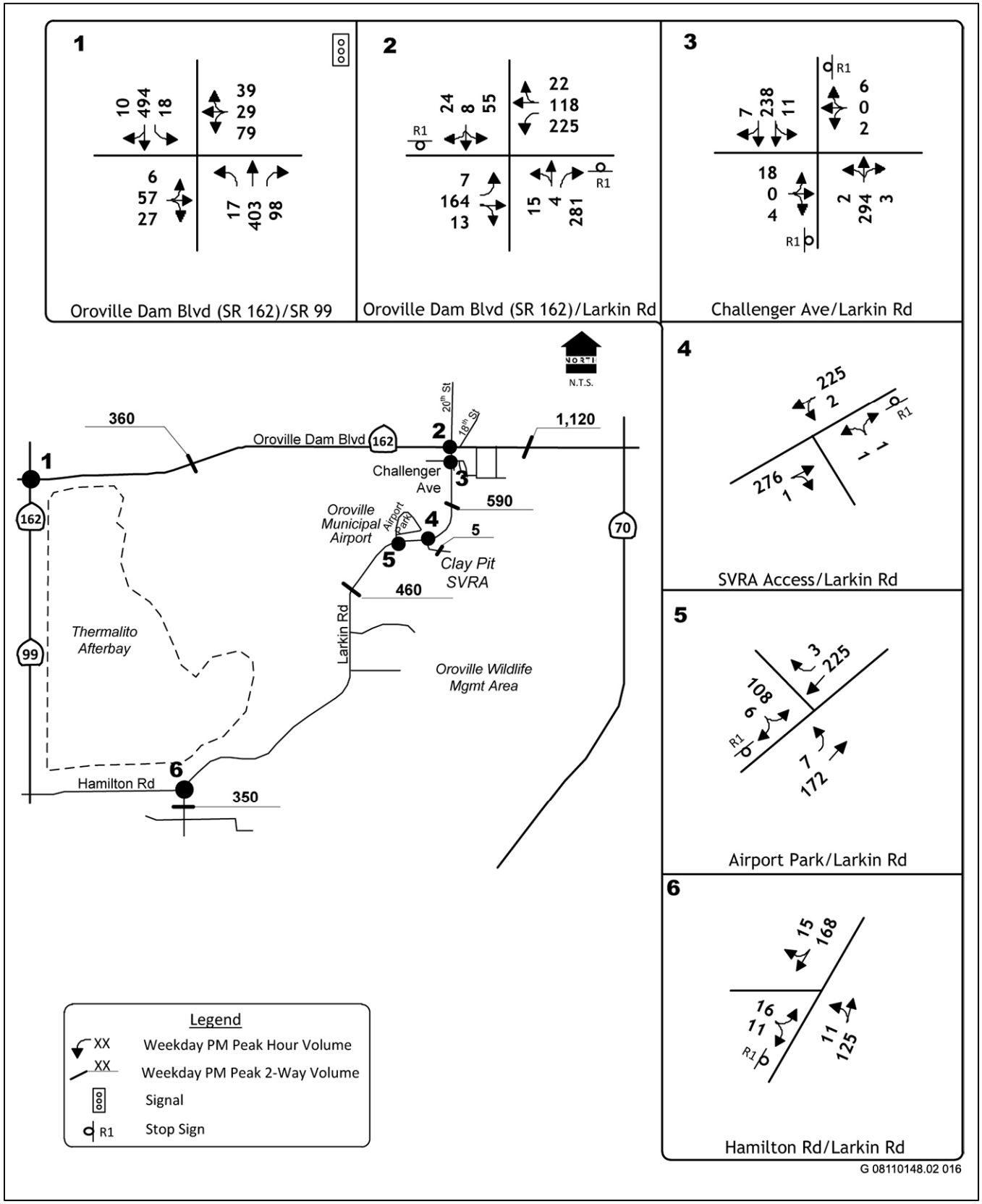
Year 2017 Plus Project Scenario

This subsection includes an analysis of projected traffic operations following implementation of the General Plan, including construction and operation of the headquarters facilities, relative to anticipated Year 2017 conditions. This time frame coincides with potential build-out of the Developed Use Area. Figures 3.1-8 through 3.1-11 display projected 2017 traffic volumes with and without traffic associated with implementing the General Plan.

Projections of background traffic volumes within the study area for the 2017 planning horizon were developed using existing traffic counts and forecast traffic volumes. Twenty-year (i.e., 2030) traffic forecasts were identified for the study area as discussed in the cumulative analysis (Chapter 4.0 of this DEIR), and Year 2017 conditions were projected by interpolating between existing conditions and the 20-year forecasts.

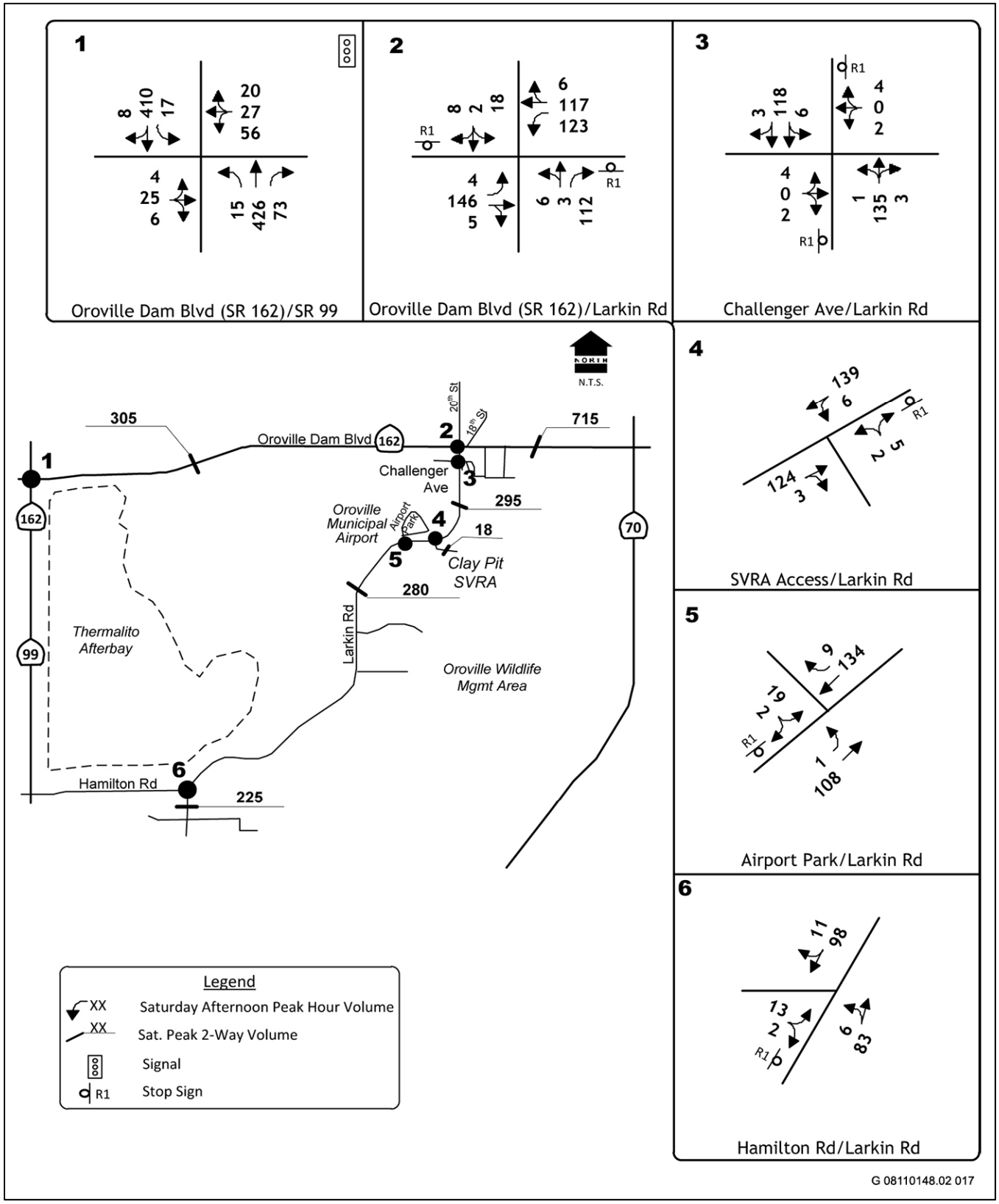
IMPACT 3.1-3 Increases to Peak-Hour and Daily Traffic Volumes under Year 2017 Plus Project Conditions

Projected intersection and roadway LOS are presented in Tables 3.1-11 and 3.1-12. Traffic generated by implementing the General Plan is projected to have a very minor effect on operations at each of the study intersections during either the weekday or Saturday peak hours (Table 3.1-11). Satisfactory LOS C or better operations are projected to continue at all locations with the exception of the southbound approach at the SR 162/Larkin Road intersection. Increased traffic at



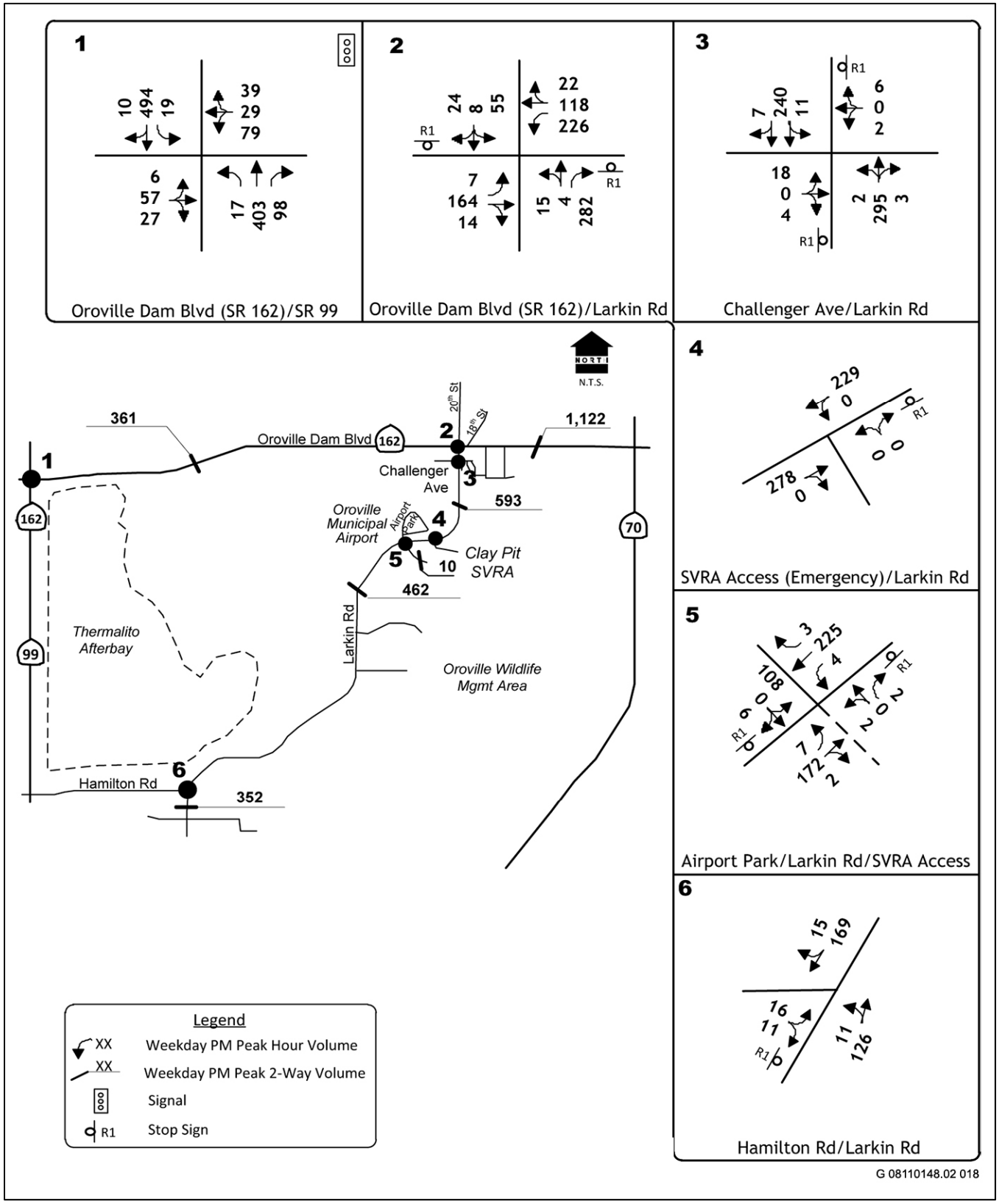
Source: KD Anderson & Associates 2011

Year 2017 No Project Weekday PM Peak Hour Traffic Volumes and Lane Configurations Figure 3.1-8



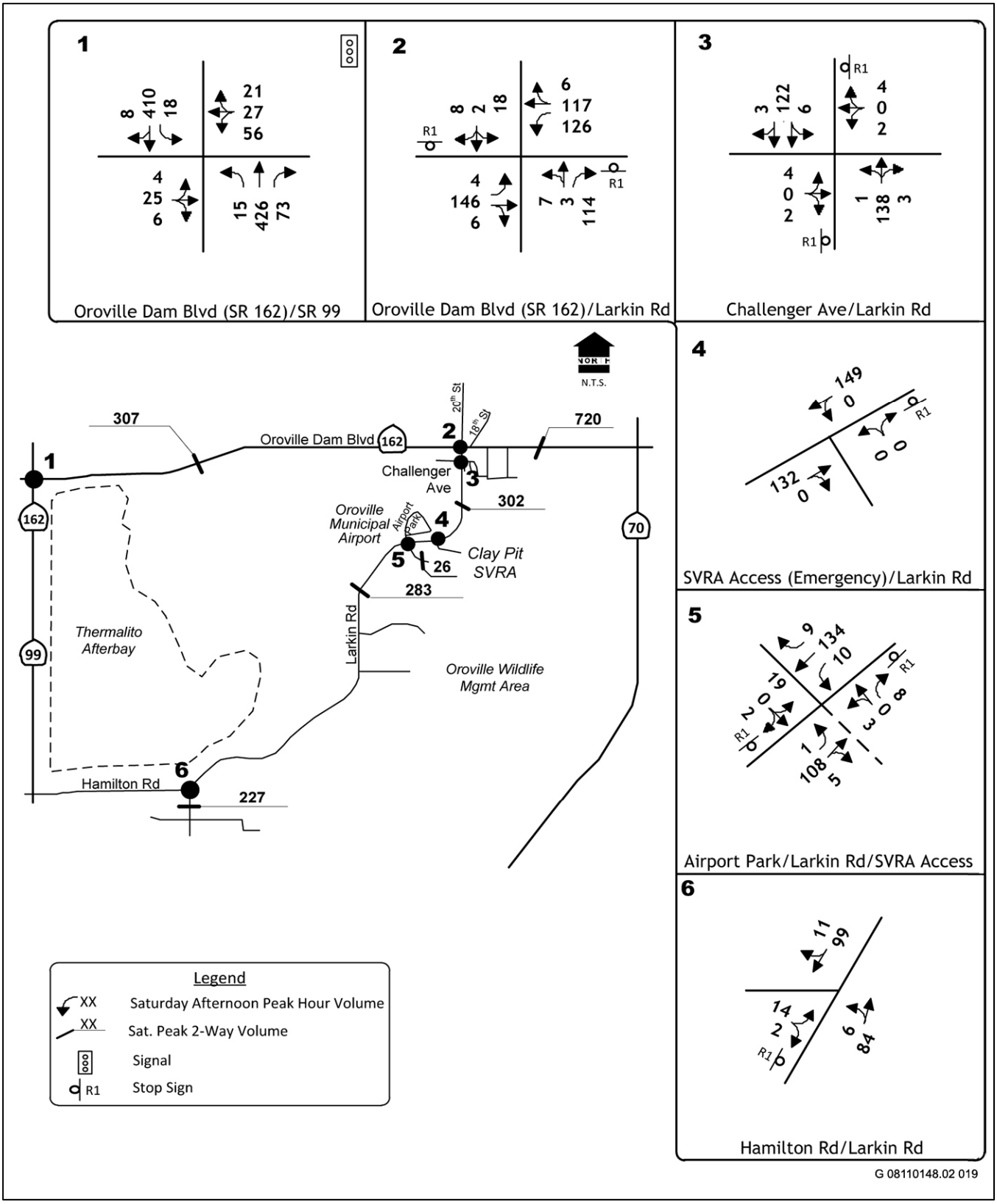
Source: KD Anderson & Associates 2011

Year 2017 No Project Saturday Afternoon Peak Hour Traffic Volumes and Lane Configurations **Figure 3.1-9**



Source: KD Anderson & Associates 2011

Year 2017 Plus Project Weekday PM Peak Hour Traffic Volumes and Lane Configurations **Figure 3.1-10**



Source: KD Anderson & Associates 2011

Year 2017 Plus Project Saturday Afternoon Peak Hour Traffic Volumes and Lane Configurations **Figure 3.1-11**

TABLE 3.1-11. INTERSECTION LEVELS OF SERVICE UNDER YEAR 2017 CONDITIONS

Location	Control	Year 2017 No Project				Year 2017 Plus Project					
		Weekday PM Peak Hour		Saturday Afternoon		Weekday PM Peak Hour			Saturday Afternoon		
		LOS	Average Delay[1]	LOS	Average Delay[1]	LOS	Delay[1]	Increase in Delay[1]	LOS	Delay[1]	Increase in Delay[1]
SR 162/SR 99	Signal	B	18.2	B	15.2	B	18.2	0.0	B	15.3	0.1
SR 162/Larkin Road											
WB left turn	NB, SB stop	A	8.4	A	7.9	A	8.4	0.0	A	7.9	0.0
EB left turn		A	7.6	A	7.5	A	7.6	0.0	A	7.5	0.0
SB approach		F	183.0	C	15.8	F	190.0	7.0	C	16.0	0.2
NB approach		B	13.6	B	10.2	B	13.6	0.0	B	10.3	0.1
Challenger Ave/Larkin Road											
NB left turn	EB, WB stop	A	7.9	A	7.5	A	7.9	0.0	A	7.5	0.0
SB left turn		A	8.1	A	7.6	A	8.1	0.0	A	7.6	0.0
Eastbound approach		B	15.0	B	10.0	C	15.0	0.0	B	10.1	0.1
Westbound approach		B	11.1	A	9.4	B	11.1	0.0	A	9.4	0.0
OHV Access/Larkin Road											
SB left turn	WB stop	A	8.0	A	7.5	A	0.0	0.0	A	0.0	0.0
WB approach		B	11.6	A	9.4	A	0.0	0.0	A	0.0	0.0
Airport Park/Larkin Road											
SB left turn	EB stop	-	--	-	--	A	7.7	7.7	A	7.5	7.5
WB approach		-	--	-	--	B	11.2	11.2	A	9.4	9.4
NB left turn		A	7.9	A	7.6	A	7.9	0.0	A	7.6	0.0
EB approach		B	14.3	B	10.1	C	16.0	1.7	B	10.7	0.6
Hamilton Road/Larkin Road											
NB left turn	EB stop	A	7.7	A	7.5	A	7.7	0.0	A	7.5	0.0
EB approach		B	10.6	A	9.7	B	10.6	0.0	A	9.7	0.0

Notes: EB = eastbound; LOS = levels of service; NB = northbound; OHV = off-highway vehicle; SB = southbound; SR = State Route; WB = westbound.
1 Delays measured in seconds.
Source: KD Anderson & Associates 2011

TABLE 3.1-12. ROADWAY LEVELS OF SERVICE UNDER YEAR 2017 CONDITIONS

Location	Number of Lanes	LOS Standard	Year 2017 No Project						Year 2017 Plus Project							
			Weekday			Saturday			Weekday				Saturday			
			Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS	Volume	V/C	LOS	Increase in V/C	Volume	V/C	LOS	Increase in V/C
SR 162																
West of Larkin Road	2	D	360	0.19	A–C	305	0.16	A–C	361	0.19	A–C	0.00	307	0.16	A–C	0.00
East of Larkin Road	2	D	1120	0.60	D	715	0.38	A–C	1122	0.60	D	0.00	720	0.38	A–C	0.00
Larkin Road																
South of Challenger Ave.	3	D	590	0.32	A–C	295	0.16	A–C	593	0.32	A–C	0.00	302	0.16	A–C	0.00
South of Airport Park	2	D	460	0.25	A–C	280	0.15	A–C	462	0.25	A–C	0.00	283	0.15	A–C	0.00
South of Hamilton Road	2	C	350	0.19	A–C	225	0.12	A–C	352	0.19	A–C	0.00	227	0.12	A–C	0.00

Note: LOS = levels of service; SR = State Route; V/C = volume-to-capacity ratio
Source: KD Anderson & Associates 2011

this location is projected to result in LOS F at the southbound approach under Year 2017 weekday conditions with or without the addition of project-generated traffic. All other approaches to this intersection are projected to experience satisfactory LOS A or B delays. An analysis of forecasted volumes in comparison with *California Manual of Uniform Traffic Control Devices for Streets and Highways* thresholds (Warrant 3, Figure 4C-4) (Caltrans 2010) indicates that the intersection would not warrant the installation of a traffic signal. A peak-hour volume of 87 vehicles is projected at this approach (Figure 3.1-10), while a threshold of 190 vehicles would be required to consider the installation of a traffic signal.

Traffic generated by the site is also projected to have a very minor effect on area roadway operations (Table 3.1-12). LOS D or better roadway operations are projected under Year 2017 conditions along each of the study roadway segments.

Because most projected intersection and roadway LOS remain below specified LOS thresholds, and because traffic volumes at the southbound approach to the SR 162/Larkin Road intersection do not warrant signalization, projected traffic impacts on study area intersections and roadway segments would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. The following analysis addresses potential impacts specific to the construction or operation of the headquarters facilities alone. These potential impacts are different from (i.e., less than) the potential impacts described above that could be caused by implementing the rest of the General Plan elements.

IMPACT 3.1-4 Increases in Peak-Hour and Daily Traffic Volumes Following Construction of the Headquarters Facilities

Construction of the headquarters facilities would include the construction of an entry kiosk, which would facilitate the collection of an entrance fee. Because no entrance fee is collected currently, the number of visitors to Clay Pit SVRA is expected to decline during the time period between construction of the headquarters facilities and construction of new OHV facilities. Therefore, there would be no increase in traffic volumes following construction of the headquarters facilities, and the project would cause ***no impact***.

Mitigation Measures: No mitigation is required.

3.1.5 Summary of Significant Impacts

Adoption of the General Plan and implementation of resulting actions would not result in significant impacts on transportation and traffic. Constructing and operating the headquarters facilities would not result in significant impacts on transportation and traffic.

3.1.6 Mitigation Measures

No significant impacts on transportation or traffic would result from implementing the General Plan, including constructing and operating the headquarters facilities, and no mitigation is required.

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3.2 Air Quality

This section presents details about the existing setting and regulatory setting for air quality. It also presents an analysis of the air quality impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.2.1 Existing Setting

The information in this section supplements the existing climate and air quality discussion for the project area provided in Section 2.3.1, "Physical Resources," of the Clay Pit SVRA General Plan.

Clay Pit SVRA is located within the Sacramento Valley Air Basin (SVAB), located in the northern portion of the Central Valley. The SVAB includes Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties; the western urbanized portion of Placer County; and the northeastern portion of Solano County.

Because of its inland location, the SVAB's climate is more extreme than that of the San Francisco Bay Area or South Coast Air Basins. The winters are generally cool and wet, while the summers are hot and dry. Primary sources of air emissions in the nonurban areas are from fossil fuel combustion, on-road vehicles and OHVs, agricultural tilling, fertilizer, livestock, and road dust.

The City of Oroville is the closest population center to Clay Pit SVRA (approximately 2.5 miles northeast). Oroville has approximately 15,000 people and the greater Oroville area has a population of approximately 55,000 people. Much of the Oroville area's economy is based on outdoor recreation, with about 1 million visitors per year (City of Oroville 2010).

Butte County Ambient Air Quality

As discussed in the General Plan, Section 2.7.3, "Regulatory Influences," criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less (PM_{10}), fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The California Air Resources Board (CARB) monitors criteria air pollutants within the SVAB using a number of monitoring stations. The monitoring station closest to the project site with complete monitoring data is in Chico approximately 22 miles to the north. This monitoring station measures ozone, CO, NO_2, PM_{10}, and $PM_{2.5}$. In general, the measurements at this station represent the air quality near the SVRA. Table 3.2-1 summarizes concentrations and exceedances of the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) from the most recent 3 years (2008–2010) at the Chico station (CARB 2011a).

TABLE 3.2-1. SUMMARY OF ANNUAL AMBIENT AIR Quality DATA[a]

	2008 NAAQS/ CAAQS	2009 NAAQS/ CAAQS	2010 NAAQS/ CAAQS
Ozone (O_3)			
Maximum concentration (1-hour/8-hour, ppm)	0.111/0.096	0.080/0.073	0.077/0.071
Number of days state standard exceeded (1-hour/8-hour)	2/14	0/2	0/1
Number of days national standard exceeded (8-hour)[b]	6	0	0
Carbon Monoxide (CO)			
Maximum concentration (1-hour/8-hour, ppm)	3.1/2.74	–/2.35	–/2.35
Number of days state standard exceeded (8-hour)	0	0	0
Number of days national standard exceeded (1-hour/8-hour)	0/0	–/0	–/0
Nitrogen Dioxide (NO_2)			
Maximum concentration (1-hour, ppm)	0.048	0.037	0.037
Number of days state standard exceeded	0	0	0
Annual average (ppm)	0.009	0.008	0.008
Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration (24-hour, µg/m^3) (National/California[c])	107.6/190.9	35.1/59.2	31.9/39.8
Number of days national standard exceeded (measured/calculated[d])[e]	6/36.5	0/0.0	0/0.0
Annual average (µg/m^3) (National/California)	16.4/18.1	10.0/12.9	8.0/10.8
Respirable Particulate Matter (PM_{10})			
Maximum concentration (24-hour, µg/m^3) (National/California[c])	143.5/140.8	48.2/47.7	38.3/40.9
Number of days state standard exceeded (measured/calculated[d])	6/37.0	0/0.0	0/0.0
Number of days national standard exceeded (measured/calculated[e])	0/0.0	0/0.0	0/0.0
Annual average (µg/m^3) (National/California)	27.3/27.6	–/20.1	–/17.0

Notes: µg/m^3 = micrograms per cubic meter; ppm = parts per million; — = data not available or insufficient data to determine value

a Measurements were recorded at the Manzanita Avenue monitoring station in Chico, CA.

b The 8-hour national ozone standard was revised to 0.075 ppm in March 2008. Statistics shown are based on the previous 0.08 ppm standard. The 1-hour national ozone standard was revoked on June 15, 2005. Statistics for the 1-hour national ozone standard are shown for informational purposes.

c State and national statistics may differ because state statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State statistics are based on local conditions, while national statistics are based on standard conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

d Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

e The national 24-hour standard for particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less was revised from 65 µg/m3 to 35 µg/m3 in 2006. Statistics shown are based on the 65 µg/m3 standard.

Sources: CARB 2011c; EPA 2011

During this 3-year period, the station exceeded the state 8-hour and 1-hour and the national 8-hour standard for ozone. The state CO and NO_2 standards were not exceeded in any of the last 3 years. The state 24-hour PM_{10} standard was exceeded on multiple days in 2008, but not once during 2009 or 2010. The national 24-hour $PM_{2.5}$ standard was also exceeded on multiple days during 2008, but not in 2009 or 2010.

Table 3.2-2 summarizes that Butte County is in state nonattainment for 1- and 8-hour ozone, PM_{10}, and $PM_{2.5}$ under the CAAQS. Under the NAAQS, Butte County is in federal nonattainment for 8-hour ozone, and areas of lower elevation are in federal nonattainment for $PM_{2.5}$. The majority of reactive organic gases (ROG) and oxides of nitrogen (NO_X) emissions within the county are attributable to "mobile sources." Mobile sources of emissions are emissions from a moving source, such as passenger vehicles; light-, medium-, and heavy duty trucks; buses; motorcycles; and motor homes.

TABLE 3.2-2. BUTTE COUNTY AMBIENT AIR QUALITY ATTAINMENT STATUS

Pollutant	State (CAAQS)	Federal (NAAQS)
1-hour ozone	Nonattainment	–[1]
8-hour ozone	Nonattainment	Nonattainment[2]
Carbon monoxide	Attainment	Attainment
Nitrogen dioxide	Attainment	Attainment
Sulfur dioxide	Attainment	Attainment
Inhalable particulates (PM_{10})	Nonattainment	Attainment
Inhalable particulates ($PM_{2.5}$)	Nonattainment	Nonattainment[3]

Notes: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards

[1] The 1-hour ozone NAAQS was revoked in 2005 and the annual NAAQS for particulate matter with an aerodynamic diameter of 10 micrometers or less was revoked in 2006.

[2] The Butte County Air Quality Management District (Butte County AQMD) expects the 8-hour ozone levels under the State Implementation Plan (SIP) to meet NAAQS. The SIP will be due to the U.S. Environmental Protection Agency (EPA) by 2013 (Butte County AQMD 2009a).

[3] In December 2009 EPA designated the lower elevations of Butte County as nonattainment for the new standard for particulate matter with an aerodynamic diameter of 10 micrometers or less ($PM_{2.5}$). Butte County AQMD staff expects the $PM_{2.5}$ SIP to be completed by 2012 (Butte County AQMD 2009a).

Source: Butte County AQMD 2009b

"Area sources" are the greatest contributor of particulate matter emissions in Butte County (CARB 2008). Area sources of emissions are emissions from a source that is not mobile, such as natural gas combustion, wood fuel combustion, consumer products (e.g., hairspray, deodorants, cleaning products, spray paint, insecticides), and architectural coatings. Consumer products of concern

commonly contain volatile organic compounds and may contain toxic air contaminants (TACs) and greenhouse gases.

Existing Criteria Pollutant Emissions

Existing facilities at Clay Pit SVRA include a 0.6-acre paved parking lot, two shade ramadas, two picnic tables, one vault toilet, and one interpretive sign. The SVRA is open for day use only, and OHV activities take place throughout the SVRA. This is the context in which baseline local emissions are generated.

Area Sources

Area sources of emissions at the SVRA are measurably negligible, with the exception of PM_{10} which is generated as windblown fugitive dust from loose soils throughout the SVRA. Windblown fugitive dust levels vary throughout each day depending on weather conditions.

Mobile Sources

Mobile source emissions at Clay Pit SVRA come from vehicles traveling to and from the SVRA and from OHVs being driven at the SVRA. Based on traffic counts taken at Clay Pit SVRA in April 2010, during a peak weekend day, the SVRA generates 124 vehicle trips, and approximately 93 OHVs operate at the SVRA (Appendix C in the Clay Pit SVRA General Plan and Appendix B in this DEIR). Also, most visitors are estimated to reside within 50 miles of the SVRA (Appendix B). Based on this information, estimated emissions from mobile sources are summarized in Table 3.2-3.

TABLE 3.2-3. EXISTING EMISSIONS[1] (LBS/DAY) FROM MOBILE SOURCES DURING THE PEAK WEEKEND DAY

Mobile Source	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Visitor vehicles	7.78	7.63	85.53	47.47	4.61
OHVs	30.48	1.21	148.10	360.84	35.49
Total emissions	**38.26**	**8.84**	**233.63**	**408.31**	**40.10**

Notes: CO = carbon monoxide; lbs/day = pounds per day; NO_X = Oxides of Nitrogen; OHV = off-highway vehicle; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; ROG = reactive organic gases.

[1] Emissions modeled using the URBEMIS2007, OFFROAD2007, and EMFAC2007 computer models. See Appendix C for calculations. Assumes an average of 1.5 hours of OHV riding at an average of 15 mph per OHV (i.e. 22.5 miles per OHV per day).

Source: Appendix C; data modeled by AECOM in 2011

The majority of the Clay Pit SVRA riding area is composed of clay soils with loose gravel, silt, and cobbles. OHV use on loose soil generates dust during the dry summer months. This dust includes fugitive PM_{10} and $PM_{2.5}$. Temperature inversions in the valley that create a stable atmosphere, and

geographic barriers surrounding the area cause the particulate matter in the air to accumulate, concentrate, and reduce visibility.

Point Sources

Point sources of pollutants are stationary, identifiable sources of criteria pollutants and/or TACs. TACs, as defined in Section 39657 of the California Health and Safety Code, are chemicals that can cause adverse effects to human health or the environment, including hazardous air pollutants, as defined in the federal Clean Air Act (42 U.S. Code Section 7412[b]). Minor point sources include charbroilers, dry cleaners, gas stations, and auto body paint shops. Major point sources include power plants, oil and gas field operations, and manufacturing plants. The SVRA currently generates no emissions from a point source.

3.2.2 Regulatory Setting

Air quality in Butte County is regulated by the U.S. Environmental Protection Agency (EPA), CARB, and the Butte County Air Quality Management District (Butte County AQMD). Background summaries of federal and state regulations that govern air quality are provided in Section 2.7.3, "Regulatory Influences," of the General Plan.

The state and air district regulations expected to directly affect construction and operation of Clay Pit SVRA through the life of the General Plan are discussed below. Should the regulations change after certification of this EIR and before construction of facilities envisioned in the General Plan, future development on the SVRA would be required to comply with the most current regulations at the time of construction.

Federal Plans, Policies, Regulations, and Laws

As shown in Table 3.2-2, Butte County is in federal nonattainment for 8-hour ozone and $PM_{2.5}$. At this time, Butte County AQMD does not have an EPA-approved State Implementation Plan (SIP) for attaining the NAAQS for these pollutants. The last SIP for Butte County AQMD was prepared in 2003. In 2009, the district participated in the jointly prepared *North Sacramento Valley Planning Area 2009 Air Quality Plan* (2009 Attainment Plan) (Butte County AQMD 2009a) for the CAAQS nonattainment pollutants (8-hour ozone and $PM_{2.5}$ and PM_{10}), which have more stringent standards than the NAAQS. CARB found the North Sacramento Valley Planning Area air districts would not be required to prepare a comprehensive plan update for the 2003 SIP update, but directed the air districts to continue to focus on adopting and implementing the "feasible" control measures identified in the 2009 Attainment Plan. Butte County AQMD, however, is preparing an 8-hour ozone SIP and anticipates it will submitted to EPA by 2013 and expects the $PM_{2.5}$ SIP to be completed by 2012 (Butte County AQMD 2009a).

State Plans, Policies, Regulations, and Laws

California Clean Air Act

Butte County does not meet state attainment levels for 1- and 8-hour ozone, PM_{10}, and $PM_{2.5}$. To meet the CAAQS, the 2006 Attainment Plan includes control strategies for stationary, areawide, and indirect sources of those pollutants which are out of attainment. Section 2.7.3, "Regulatory Influence," of the Clay Pit SVRA General Plan includes a discussion of the 2006 Attainment Plan.

California Off-Highway Recreational Vehicle Regulations

As discussed in Section 2.7.3, "Regulatory Influence," California's OHV regulations control mobile source emissions (including evaporative emissions) of all OHVs operating in California. These emissions are controlled by requiring new OHVs in California to meet state emission standards for OHVs. When an OHV does not meet emission standards, its use may be restricted to specific months referred to as "the red sticker season." In general, the Department of Motor Vehicles (DMV) issues red stickers to all 2003 and newer OHVs that are not certified to California OHV emission standards. Green stickers go to vehicles that meet the emission standards and to those that are 2002 and older. Green sticker vehicles may operate year-round. Clay Pit SVRA is currently subject to the Red Sticker Riding Schedule (Appendix C) whereby red sticker vehicles are only permitted to operate from September 1 through June 30 each year. Clay Pit SVRA staff at the proposed entry kiosk will ensure all OHVs operating at the SVRA comply with the Red Sticker Riding Schedule.

As of October 5, 2010, only 6% of OHVs registered in Butte County were issued red stickers by DMV. Red sticker OHVs in Butte County and throughout the state are expected to gradually phase out as they age and with purchase of new OHVs that meet California emission standards.

Regional and Local Plans, Policies, Regulations, and Ordinances

All projects in Butte County are subject to applicable Butte County AQMD rules and regulations in effect at the time of approval. The following specific rules are relevant to the construction and operation of Clay Pit SVRA:

- Rule 200, "Nuisance," addresses air emissions that would cause nuisance or annoyance "to any considerable number of persons or to the public." Odors fall into this category, and the *CEQA Air Quality Handbook; Guidelines for Assessing Air Quality Impacts for Projects Subject to CEQA Review* (Butte County AQMD 2008) has identified some common types of facilities that are known to produce odors and established a 1-mile screening distance. (See Table 2-2 of the handbook.) None of the facilities listed in the handbook are located within 1 mile of the SVRA.

- Rule 205, "Fugitive Dust Emissions," was developed to reduce ambient concentrations and limit fugitive emissions of PM_{10} from construction activities; bulk material handling and storage; carryout/trackout (i.e., any bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment [including tires] and fall out or track onto a paved road, creating visible roadway dust) and similar activities; weed abatement activities; unpaved parking lots, staging areas, and roads; inactive disturbed land; disturbed open areas; and windblown dust.

- Rule 221: Phase I Vapor Recovery Requirements, which requires installation of an CARB-certified Phase I vapor recovery system at the time of tank installation. Rule 222, Phase I Vapor Recovery Requirements, would not apply to the SVRA because it would not be dispensing gasoline for retail purposes.

3.2.3 Thresholds of Significance

The significance criteria for this analysis are based on the Butte County AQMD's CEQA Air Quality Handbook. Under Butte County AQMD's CEQA Air Quality Handbook (Butte County AQMD 2008: Section 2), a programmatic evaluation of a general plan, specific plan, or area plan can generally be done qualitatively. However this assumes that the plan being evaluated will involve different types of land use and can include measures/policies to reduce urban sprawl and dependence on motor vehicles, which is not the case with the Clay Pit SVRA General Plan. For this reason, a largely quantitative analysis was undertaken to evaluate the potential environmental impacts of implementing the General Plan related to air quality. Implementation of the General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to air quality if:

- the project construction or operations would generate regional emissions of ROG, NO_X, and PM_{10} that exceed the thresholds in Table 3.2-4;

TABLE 3.2-4. THRESHOLDS OF SIGNIFICANCE FOR CRITERIA POLLUTANTS OF CONCERN

Pollutant	Daily Threshold for Project Emissions[1]	
	Level B	Level C
NO_X	25 lbs/day	137 lbs/day
ROG	25 lbs/day	137 lbs/day
PM_{10}	80 lbs/day	137 lbs/day

Notes:
[1] Emissions that do not exceed Level B thresholds would require the use of Butte County AQMD's standard mitigation measures. Emissions in excess of Level B thresholds but less than Level C would require, in addition to Butte County AQMD's standard mitigation measures, incorporation of Butte County AQMD's best available mitigation measures, to the extent feasible, to reduce project-related emissions.
Source: Butte County AQMD 2008:2-2

- the project would be inconsistent with Butte County AQMD's air quality attainment plan;
- the project would generate emissions such that exceedance of a CAAQS or NAAQS could occur and potentially affect public health/welfare;
- the project would generate toxic or hazardous air pollutants such that potential impacts to human health/welfare would occur; or
- the project would create objectionable odors that could affect a substantial number of people (Butte County AQMD 2008:Section 2.4).

3.2.4 Environmental Evaluation

Evaluation Methodology

Air quality impacts were assessed in accordance with methodologies recommended by CARB and Butte County AQMD in its CEQA Air Quality Handbook.

Temporary (construction) and permanent (operational) criteria pollutant emissions were calculated using the URBEMIS2007 Version 9.2.4 computer modeling program, data from the *URBEMIS2007 Version 9.2.4 Users Guide* (Rimpo and Associates 2008), and OFFROAD2007 (CARB 2007). Predicted construction and operational emissions were then compared with applicable Butte County AQMD significance thresholds. Mobile sources of criteria pollutants calculated using URBEMIS2007 include passenger vehicles; light-, medium-, and heavy-duty trucks; buses; motorcycles; and motor homes. URBEMIS2007 includes exhaust emissions and road dust from vehicles traveling on roadways.

For on-road mobile source emissions, URBEMIS2007 relies on CARB's EMFAC2007, Version 2.3, computer modeling program. EMFAC calculates emissions from on-road motor vehicles, including passenger vehicles; light-, medium-, and heavy-duty trucks; buses; motorcycles; and motor homes. For scenarios where large material would be hauled, stand-alone EMFAC modeling was performed.

Estimates of on-road vehicle trips by visitors and staff members traveling to and from the SVRA were derived from estimates of existing visitor numbers and from projections of visits following implementation of the Clay Pit SVRA General Plan. (Refer to Section 3.1, "Transportation and Traffic," in this DEIR and Appendix C in the Clay Pit SVRA General Plan.) The construction of new visitor facilities envisioned in the General Plan would be expected to increase visitor trips to and from the project site by 50 average daily trips (ADT), with another 12 ADT by employees for a total of 62 on-road vehicle trips attributable to implementing the General Plan. Increases in regional population and associated increases in the number of Clay Pit SVRA visitors would be expected to increase this estimate to 69 ADT in 2017 and 85 ADT in 2030.

URBEMIS2007 also incorporates CARB's OFFROAD2007 model for off-road construction and landscape maintenance equipment emissions. Mobile source emissions associated with the use of off-road vehicles, such as recreational vehicles, agricultural equipment, ships, and airplanes are not calculated by URBEMIS2007. Mobile source emissions of OHVs are calculated in this impact analysis using separate OFFROAD2007 model runs. While OFFROAD2007 includes OHV, it does not address differences in red- and green-sticker OHV emissions. However, it does assume an aging vehicle fleet whereby older vehicles will be phased out over time, as is expected of red-sticker OHVs.

Area sources are stationary sources of criteria pollutants that individually emit small quantities of pollutants, but can collectively contribute to significant quantities of pollutants. Area source emissions calculated using URBEMIS2007 include natural gas combustion for cooking, heating, and water heaters; hearth fuel combustion from wood-burning stoves, wood-burning fire places, and natural gas fire places; fuel combustion from landscape equipment; consumer products, such as hairspray, deodorants, cleaning products, spray paint, and insecticides; and maintenance architectural coatings. Area sources of PM_{10} and fugitive dust include paved and unpaved roads, undeveloped land with no vegetation, and farming operations.

The URBEMIS model uses the Feather River Air Quality Management District EMFAC database because a database specific to Butte County is not available. This approach is considered appropriate by Butte County AQMD staff (Kamian, pers. comm., 2010). The analysis of the construction and operation of the headquarters facilities assumes construction would begin in 2012. However, construction may be delayed to funding or other constraints. Nonetheless, the analysis reflected herein is accurate and appropriate for the purposes of CEQA because construction emissions associated with the use of heavy equipment are anticipated to decrease as technology improvements are realized in subsequent years.

General Plan Impact Analysis

IMPACT 3.2-1 Potential Air Quality Pollution Related to Construction Emissions

Construction of new OHV facilities envisioned in the Clay Pit SVRA General Plan may occur in stages, but construction activities are anticipated to occur over the course of a total of approximately 12 months, to be completed by June 2017. This analysis evaluates emissions assuming construction during fiscal years 2012/2013 (headquarters facilities) and 2016/2017 (OHV facilities). Activities that would generate emissions during construction of the improvements envisioned in the Clay Pit SVRA General Plan include mass site grading, fine grading and soil compaction, trenching, building construction, asphalt pavement, and architectural coatings. Other sources of emissions during construction would be from hauling and laying the

road base in the maintenance yard and in the staging areas, hauling and laying substrate amendment on the tracks, and hauling and arranging large rocks within the 4x4 area.

Criteria Pollutant Emissions

Construction emissions of criteria pollutants would principally consist of exhaust emissions (NOx, oxides of sulfur, CO, ROG, PM_{10}, and $PM_{2.5}$) from heavy-duty construction equipment, delivery trucks, and worker commutes. Construction equipment emissions would be largely localized, while delivery truck and worker commute trips would generate emissions over a broader area. Fugitive dust would be generated by grading operations, the movement of construction equipment and vehicular traffic in unpaved areas of the SVRA, and the movement of haul trucks along paved roads to and from the SVRA. Additionally, paving operations and applications of architectural coatings would release ROG emissions. Emissions from construction activities can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions.

Consistent with the General Plan's Operations and Management (OM) Guideline 6.3, construction activities would comply with Butte County AQMD Rule 205, "Fugitive Dust Emissions," to control PM_{10} fugitive dust emissions from construction activities and from soil stockpile areas. Accordingly, the following rules have been incorporated into the URBEMIS2007 model to be consistent with Rule 205:

- Maintain speed on unpaved roads at less than 15 mph.
- Water exposed surfaces at least twice daily.
- Apply soil stabilizers to inactive areas.
- Stabilize soil in equipment loading/unloading areas.
- Replace groundcover in disturbed areas quickly.
- Manage haul road dust by watering at least twice daily.

Consistent with OM Guideline 6.2, the following measures designed to reduce construction emissions would be required during construction.

- **OM Guideline 6.2**: Require that contractors and/or staff implement the following actions to minimize ozone precursor (ROG and NO_X) emissions during construction activities:
    - Post clearly visible signs that no equipment shall be left idling for longer than 5 minutes.
    - Maintain all construction equipment according to manufacturer's specifications.
    - Use diesel construction equipment meeting the California Air Resources Board's 1996 or newer certification standard for off-road heavy-duty diesel engines.

- Substitute electric- or gasoline-powered equipment for diesel-powered equipment, when feasible.
- Use alternatively fueled construction equipment on site, such as compressed natural gas, liquefied natural gas, propane, or biodiesel, when feasible.
- Use equipment that has low-emission diesel engines, when feasible.

Emissions of criteria pollutants and ozone precursors (ROG and NO_X) were calculated for the anticipated construction years using information provided by the OHMVR Division (Appendix B) and default assumptions provided in URBEMIS2007 (Appendix C). Table 3.2-5 shows that the Butte County AQMD's project emissions thresholds would not be exceeded during any year of construction. Thus, construction-related emissions of criteria air pollutants would be ***less than significant***.

TABLE 3.2-5. MAXIMUM DAILY UNMITIGATED AIR EMISSIONS FROM GENERAL PLAN CONSTRUCTION BY YEAR

Source	Construction Emissions (lbs/day)[1]				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
First Year of Construction Emissions[2]					
Total unmitigated emissions	2.74	22.02	12.78	21.08	5.17
Butte County AQMD significance threshold	25	25	–	80	–
Exceeds threshold?	No	No	N/A	No	N/A
Second Year of Construction Emissions[2]					
Total unmitigated emissions	3.52	24.03	19.41	11.28	3.03
Butte County AQMD project significance threshold[3]	25	25	–	80	–
Exceeds threshold?	No	No	N/A	No	N/A

Notes: – = not established; lbs/day = pounds per day; CO = carbon monoxide; N/A = not applicable; NO_X = oxides of nitrogen; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; ROG = reactive organic gases; SO_X = oxides of sulfur.
Refer to Appendices B and C of this DEIR for detailed project assumptions and modeling output files.

[1] Emissions modeled using the URBEMIS2007 (Version 9.2.4) computer model, incorporating required fugitive dust control measures from Butte County AQMD Rule 205, "Fugitive Dust Emissions" as part of the unmitigated condition due to inclusion of OM Guideline 6.3. In general, implementation of OM Guidelines are included as part of the unmitigated condition.

[2] Summertime and wintertime construction emissions are identical, and no seasonal distinction is made.

[3] Corresponds to Butte County AQMD's Level B threshold (Butte County AQMD 2008:2-2).

Source: Data modeled by AECOM in 2011

Toxic Air Contaminant Emissions

According to the *CEQA Air Quality Handbook*, a project may result in a significant impact related to TACs if it is close to sensitive receptors and has the potential to emit TACs (Butte County AQMD 2008:2-3). For CEQA purposes, a sensitive receptor is generically defined as a location where

human populations, especially children, seniors, or sick persons would have continuous exposure to a TAC. Sensitive receptors typically include schools, daycare centers, hospitals, retirement homes, convalescence facilities, and residences.

During project construction, the use of off-highway diesel equipment (e.g., for grading, excavation, paving) and on-road diesel equipment (to bring materials to and from the project site) would generate diesel particulate matter (PM) emissions. CARB identified diesel PM as a TAC in 1998 (CARB 2011c).

Diesel PM emitted during construction activities typically collects in a single area for a short period. Although construction of facilities envisioned in the General Plan, including the headquarters facilities, would occur over two different construction periods, diesel-powered construction equipment would likely be used for no more than a few months in any one area within the SVRA, and use would cease when construction was completed in that area. The dose to which receptors are exposed is the primary factor used to determine a health risk. Dose is the concentration of a substance or substances in the environment and the extent of a person's exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher dose. The risks estimated for a Maximally Exposed Individual (i.e., an individual exposed to the maximum dose of diesel PM expected during project construction) are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, if the duration of proposed construction activities near any sensitive receptor were 9 months, the exposure would be approximately 1% of the total exposure period used for health risk calculation. Therefore, the probability that the Maximally Exposed Individual would contract cancer from diesel PM generated by project construction would be less than 1 in 1 million. In addition, the diesel PM would not generate ground-level concentrations of noncarcinogenic TACs that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Generally, a potential cancer risk greater than 1 in 1 million and a noncarcinogenic Hazard Index greater than 1 would be considered to represent potential impacts to human health/welfare. Furthermore, with ongoing implementation of EPA and CARB requirements for cleaner fuels, diesel engine retrofits, and new, low-emission diesel engine types, the diesel PM emissions of individual equipment would be reduced over the years through the life of the General Plan. Therefore, impacts from TAC emissions during project construction would be ***less than significant***.

Odors

Butte County AQMD does not have rules that specifically address odors; however, Rule 200, "Nuisances," apply to odor emissions generated by a project in the region.

Implementation of the General Plan could result in odorous emissions from diesel exhaust generated by construction equipment. Although diesel emissions have an objectionable odor, diesel exhaust is highly diffusive, few people would be located around the diesel equipment, and these emissions would be temporary. Therefore, construction would not result in a nuisance impact, and odor impacts during project construction would be ***less than significant***.

Because potential criteria pollutant emission impacts, TAC impacts, and odor impacts related to construction would be less than significant, **Impact 3.2-1, "Potential Air Quality Pollution Impacts Related to Construction Emissions,"** would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.2-2 Potential Air Quality Pollution Related to Operational Emissions

Criteria Pollutant Emissions

Criteria pollutant emissions would be generated at Clay Pit SVRA as long as the site continues to be used for OHV recreation as described and envisioned in the General Plan. Area sources of criteria pollutants would include the propane tank by the headquarters facilities (see Impact 3.2-3 below) and the use of paint to periodically repaint structures on-site. Mobile sources of criteria pollutants would include trips generated by SVRA staff and visitors to and from the SVRA, site maintenance activities (e.g., track grooming), and the existing and increased use of OHVs.

Exhaust Emissions

Routine maintenance at the SVRA would include such activities as watering tracks and 4x4 areas, grooming tracks, and adding soil amendments to tracks annually. These activities would generate emissions from haul trucks and maintenance equipment. Implementation of General Plan OM Guideline 6.1 would reduce criteria pollutant emissions from maintenance activities by requiring that the engines of all maintenance equipment be maintained in proper tune.

Vehicle emissions would also result from employee and visitor trips to and from the SVRA and from operating OHVs on-site. Following construction of new facilities envisioned in the General Plan in 2016/2017, there would be approximately 12 weekends of peak usage annually (see Appendix C of the General Plan). The mobile source emissions from trips to and from Clay Pit SVRA would be highest during these 12 peak weekends. The number of OHVs operating at the SVRA on a typical peak day is expected to increase from approximately 93 OHVs (based on April 2010 traffic counts) to 160 OHVs (Appendix B), 53 of which are expected to result from implementation of the General Plan. As shown in Table 3.2-6, modeling results predict that criteria pollutant levels would be below Butte County AQMD significance thresholds. In addition, because improvements envisioned in the General Plan are designed to meet an existing local need for developed facilities, it is anticipated that the SVRA would accommodate OHV recreationists who

may otherwise drive outside the area to other OHV recreation facilities, or who may operate OHVs in non-designated areas in the county. No other SVRAs are located within 80 miles of Clay Pit SVRA and 4x4 recreationists routinely drive over 100 miles to reach recreation areas outside of Butte County. By offering new on-site facilities such as a 4x4 obstacle course and motorcycle tracks, local user groups would be less likely to drive as far to participate in these activities, thus reducing potential vehicle emissions.

TABLE 3.2-6. NET OPERATIONAL AIR EMISSIONS DURING A PEAK WEEKEND FOLLOWING CONSTRUCTION OF VISITOR FACILITIES ENVISIONED IN THE GENERAL PLAN (APPROXIMATELY 2017)

Source	Emissions (lbs/day)[1]				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Area Sources					
Subtotal Area Sources	*0.02*	*0.02*	*0.02*	*0.00*	*0.00*
Mobile Sources					
Visitor Vehicles[2]	1.86	2.61	29.71	27.42	3.26
OHVs	17.52	0.69	85.17	-15.76[3]	-1.55[3]
Subtotal Mobile Sources	*21.26*	*3.30*	*114.88*	*11.66*	*1.71*
Site Maintenance Activities					
Subtotal Site Maintenance	*0.67*	*4.34*	*4.55*	*3.05*	*0.79*
Total emissions	**21.95**	**7.66**	**119.45**	**14.71**	**2.50**
Butte County AQMD significance threshold[4]	25	25	–	80	–
Exceeds project threshold?	***No***	***No***	***N/A***	***No***	***N/A***

Notes: Butte County AQMD = Butte County Air Quality Management District; lbs/day = pounds per day; CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; ROG = reactive organic gases; SO_X = oxides of sulfur.

The total emissions estimates shown are the highest values that would occur during the year. Totals may not add up to individual values because the highest emissions for a pollutant from both area and mobile sources may not occur in the same season.

Refer to Appendices B and C of this DEIR for detailed assumptions and modeling output files.

[1] Emissions modeled for annual conditions for Butte County using the URBEMIS2007 (Version 9.2.4), EMFAC2007, and OFFROAD2007 computer models.

[2] Visitor vehicle PM_{10} emissions from travel on unpaved roads were calculated separately from URBEMIS2007 (Version 9.2.4) to provide a more precise estimate of visitor VMT onsite and on unpaved roads. Assumes an average trip length of 50 miles on paved roads and 0.5 mile on unpaved roads (at Clay Pit SVRA) since, based on existing data 80% of visitors reside within 50 miles of the Clay Pit SVRA.

[3] PM10 and PM2.5 OHV emissions take into account on-site watering of the tracks (up to 5 times per day) at Clay Pit SVRA that would occur under the Clay Pit SVRA General Plan. The reduction in PM emissions from watering would apply to existing trips under 2017 conditions.

[4] Corresponds to Butte County AQMD's Level B threshold Butte County AQMD 2008:2-2.

Source: Data modeled by AECOM in 2011

Fugitive Dust

All freeways and major roadways between nearby cities and the project site are paved, so fugitive dust generated by employee and visitor trips would be minimal. However, once within the SVRA, vehicular trips on unpaved areas of the SVRA would generate fugitive dust.

As shown in Table 3.2-6, modeled levels (14.71 pounds per day [lbs/day]) of PM_{10} emissions (primarily fugitive dust) on a peak use weekend would not exceed the Butte County AQMD "Level B" threshold of 80 lbs/day. Implementing routine operations described in Chapter 4, "The Plan," in the General Plan would reduce dust emissions and would constitute mitigation as defined by Butte County AQMD. Specifically, to control the release of fugitive dust caused by OHV use of tracks within Clay Pit SVRA, tracks would be watered year-round, as needed. On peak days, tracks may be watered as much as five times per day. Also, a selection of sand, rice hulls, chip bark, bark mulch, top soils, and other materials would be amended into track dirt a minimum of once per year, which would help retain moisture from track watering and greatly reduce dust generation. These reductions were accounted for in the projected emissions shown in Table 3.2-6. Implementation of OM Guideline 6.1 would also reduce fugitive dust emissions by requiring that the maintenance area and unpaved staging areas be covered with road base mixed with dust suppressants, and that dust suppressants and/or surface treatments be applied as needed to the maintenance area and unpaved staging areas and roads. Further, construction of OHV facilities such as roadways and tracks would reduce the surface area of loose native soils, which generate fugitive dust from wind and OHV recreation. Finally, implementation of goals and guidelines that require landscaping and rehabilitation of drainage features (e.g., DMA Guideline 2.1) would stabilize soils and further reduce the availability of loose native soils which can generate dust.

In addition, OM Guideline 6.4 requires that dust control measures be implemented for special events, which could attract as many visitors as a peak weekend (Appendix B in the General Plan). Dust suppression products would be applied to all unpaved areas that would be used for parking, foot traffic, nonmobile activities (e.g., vendors, display areas), and at locations where unpaved areas join paved areas. These products would be applied immediately before setup of a special event, at the end of each special event day, and throughout the day as needed if excessive dust is observed. Implementation of these measures would further reduce PM_{10} emissions during special events.

With implementation of routine operations, OM Guidelines 6.1 and 6.4, and DMA Guideline 2.1, Butte County AQMD's mitigation requirements would be fulfilled, and the impact of exhaust emissions and fugitive dust related to operation of the Clay Pit SVRA General Plan would be ***less than significant***.

Odors

Butte County AQMD does not have rules that specifically address odors; however, Rule 200, "Nuisances," apply to odor emissions generated by a project in the region. The CEQA Air Quality

Handbook identifies 12 operations as potentially generating odors: wastewater treatment plants, sanitary landfill transfer stations, composting facilities, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, painting/coating operations (e.g., auto body shops), rendering plants, coffee roasters, food processing facilities, and confined animal facilities. The SVRA site is not within 1 mile of any facility that conducts these operations so staff and visitors at the SVRA would not be affected by off-site odors.

During operations, vault toilets could be sources of potential odors on the project site. However, OM Guideline 1.6 in the General Plan requires the installation of odor control systems in these facilities which would ensure that potential odors from the vault toilets would not be considered a nuisance. With implementation of this General Plan guideline, odor impacts during project operations would be ***less than significant***.

Toxic Air Contaminant Emissions

The proposed fuel station would dispense gasoline and diesel fuel, which contain benzene, ethyl benzene, toluene, xylene, and methyl tertiary butyl ether, all of which are TACs. Therefore, the proposed fuel station would require separate emissions reporting and a permit from Butte County AQMD under Rule 221, "Phase I Vapor Recovery Requirements." Compliance with the Butte County AQMD permit would reduce potential impacts from fuel dispenser emissions.

Several residences are located within one-quarter mile of Clay Pit SVRA and are considered sensitive receptors. The potential exists for exposure of sensitive receptors to TAC emissions from two-stroke engines. The current estimate of two-stroke engines used at Clay Pit SVRA is approximately five per day on peak days, which is approximately 5% of all OHVs (Appendix B). EPA requires that all OHVs and all-terrain vehicles manufactured in 2007 or newer be four-stroke engines. Based on this EPA mandate, the number of two-stroke OHVs operated at the SVRA would be less than 5% of the total OHV fleet inventory in 2017 and even less in 2030. Therefore, the contribution of TAC emissions from OHV use at Clay Pit SVRA would be negligible. In addition, the SVRA is subject to the Red Sticker Riding Schedule (Appendix C) whereby red sticker vehicles are only permitted to operate from September 1 through June 30 each year. However, every OHV entering the SVRA currently is not inspected for compliance with this schedule. Following implementation of the General Plan, staff at the proposed entry kiosk would ensure that all OHVs operating at the SVRA comply with the Red Sticker Riding Schedule, thus reducing TAC emissions from two-stroke engines. Finally, CARB does not consider OHVs and ATVs a source of TACs (Spencer, pers. comm., 2011). Therefore the impact of OHV emissions on sensitive receptors during project operations would be ***less than significant***.

Localized Concentrations of Carbon Monoxide

Implementation of the General Plan would result in increased use of the SVRA and increased traffic volumes at project area intersections. If roadway congestion occurred at intersections in

the project area, the congestion could result in a localized CO concentration (often referred to as a "CO hotspot") that could exceed NAAQS or CAAQS for this pollutant, and concentrations could reach unhealthy levels at nearby sensitive land uses such as residences.

Localized CO concentrations near roadway intersections are a function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions.

Butte County AQMD recommends using a screening approach to determine whether long-term project operations would have the potential to violate the CO standard (Butte County AQMD 2008). Based on Butte County AQMD guidance, the General Plan would result in a significant CO concentration if:

- a traffic study for the project indicates that the peak-hour LOS on one or more streets or at one or more intersections would be reduced to LOS E or F or
- a traffic study indicates that the project would substantially worsen a traffic delay (i.e., increase delay by 10 or more seconds) on one or more streets or intersections that are already at a LOS F.

The traffic impact study prepared for the General Plan (see Section 3.1 of this DEIR) states that:

> *Traffic generated by implementing the General Plan is projected to have a very minor effect on operations at each of the study intersections during either the weekday or Saturday peak hours (Table 3.1-11). Satisfactory LOS C or better operations are projected to continue at all locations with the exception of the southbound approach at the SR 162/Larkin Road intersection. Increased traffic at this location is projected to result in LOS F at the southbound approach under [future] weekday conditions with or without the addition of project-generated traffic. All other approaches to this intersection are projected to experience satisfactory LOS A or B delays. An analysis of forecasted volumes in comparison with* California Manual of Uniform Traffic Control Devices for Streets and Highways *thresholds (Warrant 3, Figure 4C-4) (Caltrans 2010) indicates that the intersection would not warrant the installation of a traffic signal. A peak-hour volume of 87 vehicles is projected at this approach (Figure 3.1-11), while a threshold of 190 vehicles would be required to consider the installation of a traffic signal.*

Because the projected LOS F volume would not be a result of implementing the General Plan, but rather, would occur with or without the addition of project-generated traffic, and because traffic generated by implementing the General Plan is projected to have a very minor effect on traffic operations, the project would not be responsible for creating a CO hotspot and this impact would be ***less than significant.***

Because potential criteria pollutant emission impacts, TAC impacts, odor impacts, and localized concentrations of carbon monoxide impacts related to operations would be less than significant, **Impact 3.2-2, "Potential Air Quality Pollution Impacts Related to Operational Emissions,"** would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. The following analysis addresses potential impacts specific to the construction or operation of the headquarters facilities alone. These potential impacts are different from (e.g., less than) the potential impacts described above which could be caused by implementing the rest of the General Plan elements.

IMPACT 3.2-3 Potential Air Quality Pollution Related to Construction and Operation of the Headquarters Facilities

As shown in Table 3.2-5 above, maximum daily emissions that would occur at Clay Pit SVRA during the first year of construction (associated with construction of the headquarters facilities) would not exceed Butte County AQMD thresholds. Therefore, criteria pollutant impacts associated with the construction of the headquarters facilities would be ***less than significant***.

The criteria pollutant emissions associated with operation of the headquarters facilities at Clay Pit SVRA would be limited to the use of propane on-site. The propane tank is expected to have residential capacity (250 gallons) and would be used solely for heating and cooking, which would produce an insubstantial amount of emissions. These emissions are included as part of the overall project's less-than-significant emissions shown in Table 3.2-6 above. No propane would be dispensed commercially at the site; thus, no permitting from Butte County AQMD would be required. Criteria pollutant impacts related to the use of this propane tank would be ***less than significant***.

Mitigation Measures: No mitigation is required.

3.2.5 Summary of Significant Impacts

Adoption of the General Plan and implementation of resulting actions would not result in significant air quality impacts. Construction of the headquarters facilities would also not result in significant air quality impacts.

3.2.6 Mitigation Measures

No significant impacts to air quality would result with implementation of the General Plan, including construction of the headquarters facilities, and no mitigation is required.

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3.3 Noise

This section presents details about the existing setting and regulatory setting for noise. It also presents an analysis of the noise impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.3.1 Existing Setting

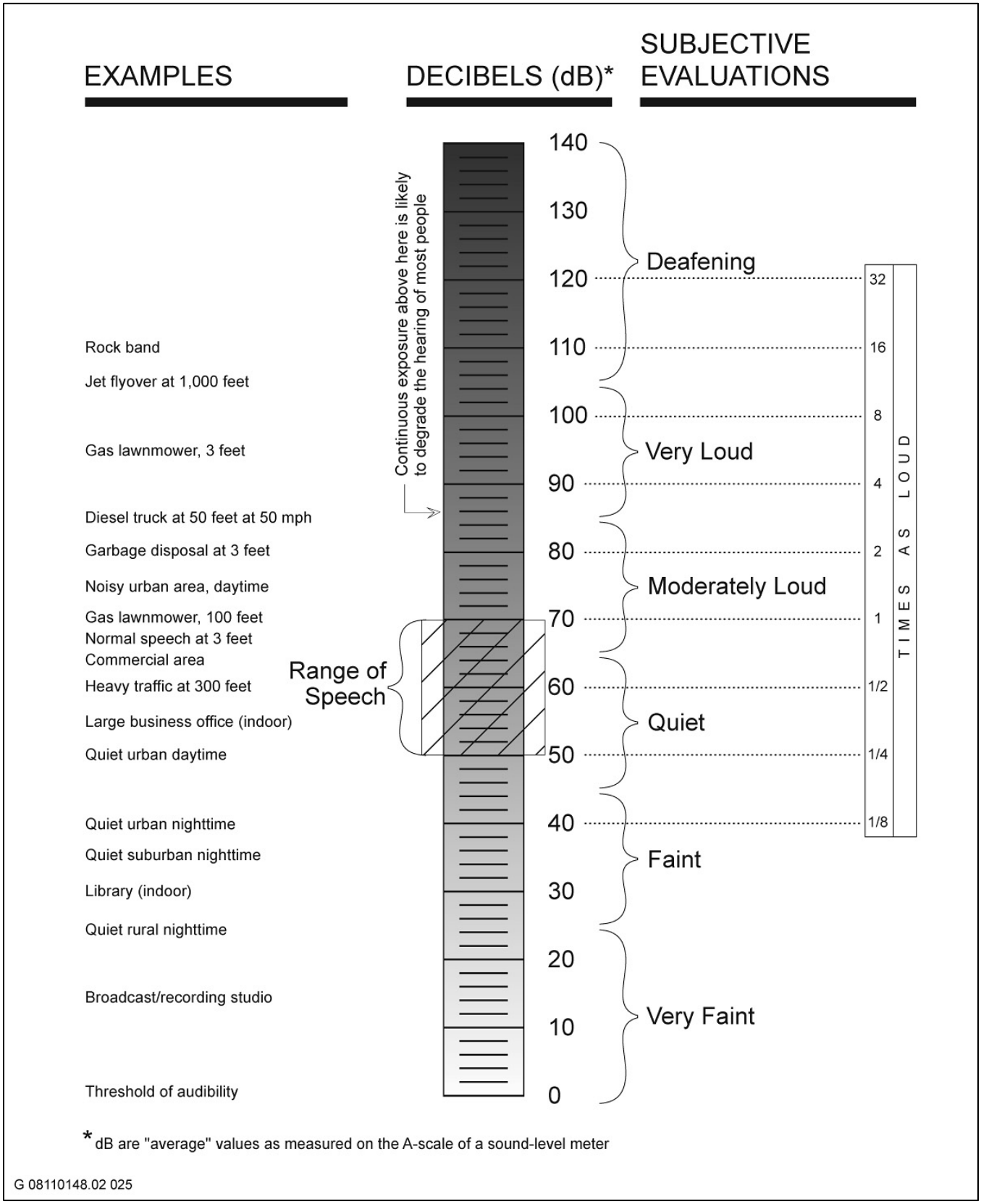
Acoustic Fundamentals

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise; consequently, the perception of sound is subjective and can vary substantially from person to person. Common sources of environmental noise and noise levels are presented in Figure 3.3-1.

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz, which is equivalent to one complete cycle per second.

Directly measuring sound pressure fluctuations would require the use of a very large and cumbersome range of numbers. To avoid this and have a more useable numbering system, the decibel (dB) scale was introduced. A sound level expressed in decibels is the logarithmic ratio of two like pressure quantities, with one pressure quantity being a reference sound pressure. For sound pressure in air the standard reference quantity is generally considered to be 20 micropascals, which directly corresponds to the threshold of human hearing. The use of the decibel is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly added. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, weighting networks dependent on frequency were developed. The standard weighting networks are identified as A through E. A strong correlation exists between



Source: California Department of Transportation 2009.

Common Noise Sources and Levels **Figure 3.3-1**

the way humans perceive sound and A-weighted sound levels (dBA). For this reason dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources.

Noise can be generated by a number of sources, including mobile sources (transportation noise sources) such as automobiles, trucks, and airplanes and stationary sources (nontransportation noise sources) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receptor, noise levels attenuate (decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers (e.g., walls, building façades, berms). Noise generated from mobile sources generally attenuate at a rate of 3 dBA (typical for hard surfaces, such as asphalt) to 4.5 dBA (typical for soft surfaces, such as grasslands) per doubling of distance, depending on the intervening ground type. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 to 7.5 dBA per doubling of distance.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receptor. Furthermore, the presence of a large object (e.g., barrier, topographic features, intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receptor. The amount of noise level reduction or "shielding" provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receptors, and the frequency spectra of the noise. Natural barriers such as berms, hills, or dense woods and human-made features such as buildings and walls may be effective noise barriers.

Noise Descriptors

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors most often used to describe environmental noise are defined below.

- **L_{max} (Maximum Noise Level):** The highest A/B/C-weighted integrated noise level occurring during a specific period of time.

- **L_n (Statistical Descriptor):** The noise level exceeded n% of a specific period of time, generally accepted as an hourly statistic. An L_{10} would be the noise level exceeded 10% of the measurement period.

- **L_{eq} (Equivalent Noise Level):** The energy mean (average) noise level. The steady-state sound level that, in a specified period of time, contains the same acoustical energy as a varying sound level over the same time period.

- **L_{dn} (Day-Night Noise Level):** The 24-hour L_{eq} with a 10-dBA "penalty" applied during nighttime noise-sensitive hours, 10 p.m. through 7 a.m. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

- **CNEL (Community Noise Equivalent Level):** Similar to the L_{dn} described above, but with an additional 5-dBA "penalty" for the noise-sensitive hours between 7 p.m. to 10 p.m., which are typically reserved for relaxation, conversation, reading, and watching television. If the same 24-hour noise data are used, the CNEL is typically 0.5 dBA higher than the L_{dn}.

Characteristics of Sound Propagation and Attenuation

As sound (or noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, depends on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse square law describes the attenuation caused by the pattern of sound traveling from the source to the receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance. However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBA per doubling of distance. The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels.

Furthermore, the presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation depends on the barrier size and frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans 2009:2-39 through 2-40).

Human Response to Noise

Excessive and chronic exposure to elevated noise levels can result in auditory and nonauditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Nonauditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The nonauditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The nonauditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to

nonauditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several nonacoustic factors. The number and effect of these nonacoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be to the new noise source.

With respect to how humans perceive and react to changes in noise levels, a 1-dBA increase is imperceptible, a 3-dBA increase is barely perceptible, a 6-dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988:21). These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 dBA to 70 dBA, as this is the usual range of voice and interior noise levels. Depending on the existing noise environment and the new sources added to it, an increase in noise level of 3 dBA or more is typically considered perceptible in terms of the existing noise environment.

Fundamental Noise Control Options

Any noise problem may be considered as being composed of three basic elements: the noise source, a transmission path, and a receptor. The appropriate acoustical treatment for a given project should consider the nature of the noise source and the sensitivity of the receptor. The problem should be defined in terms of appropriate criteria (L_{dn}, L_{eq}, or L_{max}); the location of the sensitive receptor (inside or outside); and the time that the problem occurs (daytime or nighttime). Noise control techniques should then be selected to provide an acceptable noise environment for the receiving property while remaining consistent with local aesthetic standards and practical structural and economic limits. Fundamental noise control options are described below.

Use of Setbacks

Noise exposure may be reduced by increasing the distance between the noise source and the receiving use. Setback areas can take the form of, for example, open space, frontage roads, recreational areas, and storage yards. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally about 4–6 dBA.

Use of Barriers

Shielding by barriers can be obtained by placing walls, berms, or other structures (such as buildings) between the noise source and the receptor. The effectiveness of a barrier depends on blocking the line of transmission (i.e., the line of sight) between the source and receptor; effectiveness is improved when the sound must travel a longer distance to pass over the barrier than if it were traveling in a straight line from source to receptor. The difference between the distance over a barrier and a straight line between source and receptor is called the "path length difference" and is the basis for calculating noise reduction from placement of a barrier.

Barrier effectiveness depends on the relative heights of the source, barrier, and receptor. In general, barriers are most effective when placed close to either the receptor or the source. An intermediate barrier location yields a smaller path length difference for a given increase in barrier height than does a location closer to either source or receptor.

For maximum effectiveness, barriers must be continuous and relatively airtight along their length and height. To ensure that sound transmission through the barrier is insignificant, barrier mass should be about 4 pounds per square foot, although a lesser mass may be acceptable if the barrier material provides sufficient transmission loss. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept the line of sight to all significant noise sources. Earth, in the form of berms or the face of a depressed area, is also an effective barrier material. Because most of Clay Pit SVRA is located within the depressed Clay Pit basin, the sides of the basin effectively serve as noise barriers and attenuate off-site noise emanating from OHVs operating in the SVRA.

There are practical limits to the noise reduction provided by barriers. For vehicle traffic or railroad noise, a noise reduction of 5–10 dBA may often be reasonably attained. A 15-dBA noise reduction is sometimes possible, but a 20-dBA noise reduction is extremely difficult to achieve. Barriers usually are provided in the form of walls, berms, or berm/wall combinations. The use of an earth berm in lieu of a solid wall may provide up to 3 dBA additional attenuation over that attained by a solid wall alone, because of the absorption provided by the earth. Berm/wall combinations offer slightly better acoustical performance than solid walls alone, and they are often preferred for aesthetic reasons.

Use of Vegetation

Trees and other vegetation are often thought to provide significant noise attenuation. However, approximately 100 feet of dense foliage (so that no visual path extends through the foliage) is required to achieve a 5-dBA attenuation of traffic noise. Thus, the use of vegetation as a noise barrier should not be considered a practical method of noise control unless large tracts of dense foliage are part of the existing landscape.

Vegetation can be used to acoustically "soften" intervening ground between a noise source and a receptor, increasing ground absorption of sound and thus increasing the attenuation of sound with distance. Planting trees and shrubs also offers aesthetic and psychological value and vegetation may reduce adverse public reaction to a noise source by removing the source from view, even though noise levels will be largely unaffected. However, note that trees planted on the top of a noise-control berm can actually slightly degrade the acoustical performance of the barrier. This effect can occur when high-frequency sounds are diffracted (bent) by foliage and directed downward over a barrier.

Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. RMS is defined as the positive and negative statistical measure of the magnitude of a varying quantity. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2006:7-1 through 7-8; Caltrans 2004:5-7). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. The response of the human body to vibration relates well to average vibration amplitude; therefore, vibration impacts on humans are evaluated in terms of RMS vibration velocity. Similar to airborne sound, vibration velocity can be expressed in decibel notation as vibration decibels (VdB). The logarithmic nature of the decibel serves to compress the broad range of numbers required to describe vibration.

Typical outdoor sources of perceptible groundborne vibration include construction equipment, steel-wheeled trains, and traffic on rough roads. Although the effects of vibration may be imperceptible at low levels, effects may result in detectable vibrations and slight damage to nearby structures at moderate and high levels, respectively. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in damage to structural components. The range of vibration that is relevant to this analysis occurs from approximately 50 VdB (the typical background vibration-velocity level) to 100 VdB (the general threshold where minor damage can occur in fragile buildings) (FTA 2006:8-1 through 8-8).

Noise Survey

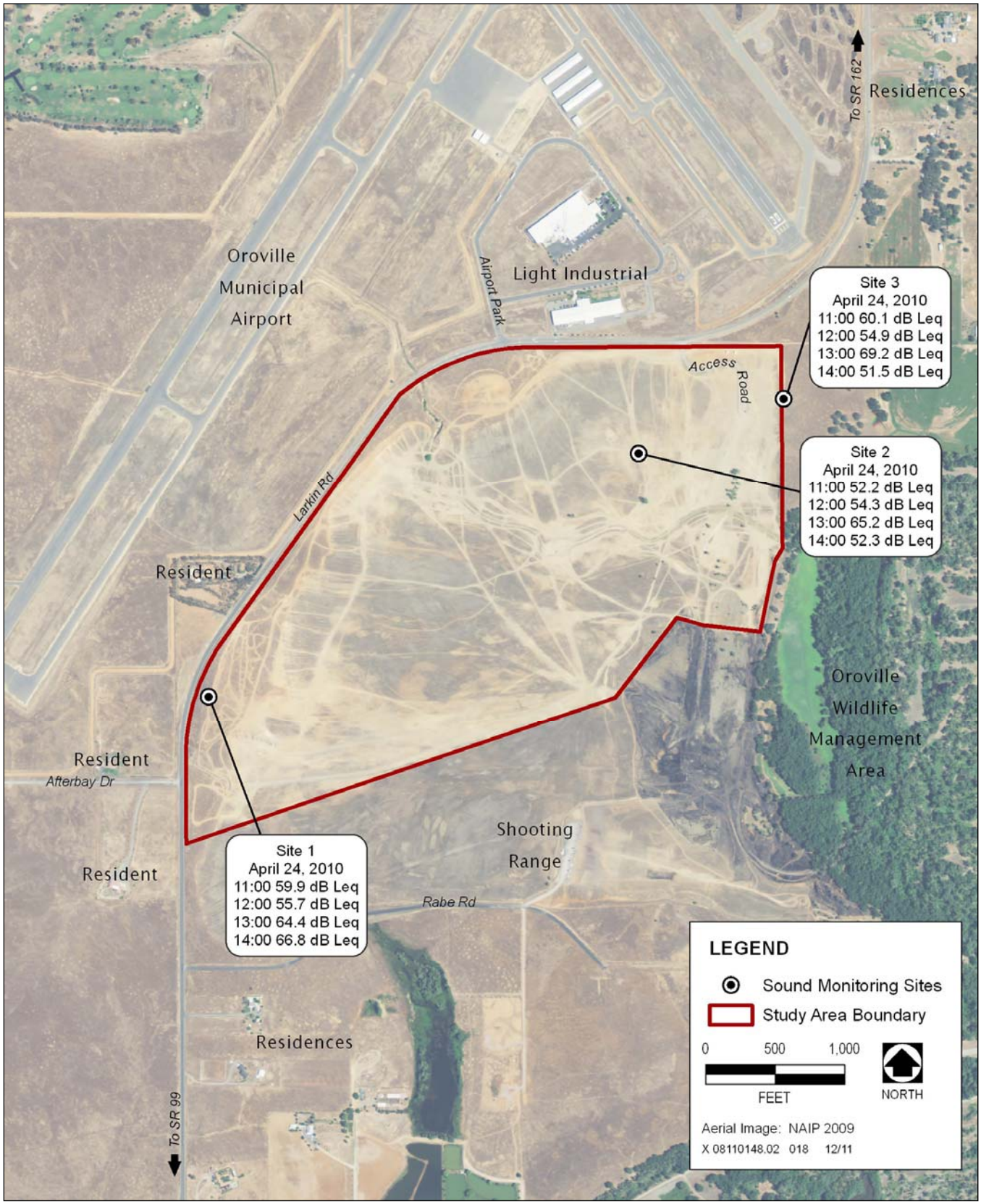
In Clay Pit SVRA, the primary noise sources include vehicle traffic, aircraft overflights from the nearby Oroville Municipal Airport, and shooting range activities at the nearby shooting range. Ambient noise levels in the area are influenced by traffic on major roads such as Larkin Road and SR 162.

A community noise survey was conducted on April 24, 2010, to document the existing noise environment at noise-sensitive receptors within the project area and existing noise sources. Noise-sensitive receptors in the project area were defined as residential land uses. The closest noise-sensitive receptor is a residence located to the west of Clay Pit SVRA between Larkin Road and the Oroville Municipal Airport runway (Figure 3.3-2). The dominant noise source identified during the ambient noise survey was traffic from Larkin Road. However, the OHV recreationists at Clay Pit SVRA, aircraft overflights, and shooting range activities also influenced ambient noise levels in the project area. Measurements of noise levels were taken in accordance with American National Standards Institute (ANSI) standards at three locations using a Larson Davis Laboratories (LDL) Model 820 precision integrating sound-level meter. The sound-level meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure that the measurements would be accurate. The equipment used meets all pertinent specifications of the ANSI for Type 1 sound-level meters (ANSI S1.4-1983[R2006]).

The locations for the community noise survey are shown in Figure 3.3-2. The L_{eq}, L_{max}, L_{10}, L_{50}, and L_{90} values were taken at each location, where the ambient noise was measured in hour-long intervals (Table 3.3-1). During the survey, daytime hourly L_{eq} noise levels ranged from 51.5 dBA to 69.2 dBA L_{eq}. The maximum noise levels ranged from 71.8 dBA to 97.6 dBA L_{max}, which were caused by OHV passbys within a foot of the sound level meter and aircraft overflights during periods when OHV recreationists were inactive.

Existing Traffic Noise

Traffic noise is the dominant noise source in the project area and is influenced by major roads such as Larkin Road and SR 162. Existing noise levels from vehicle traffic in the project area were modeled using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data provided by the Clay Pit SVRA General Plan traffic consultant (KD Anderson & Associates 2011). The FHWA model is based on CALVENO reference noise factors for automobiles, medium trucks, and heavy trucks, with vehicle volume, speed, roadway configuration, distance to the receptor, and ground attenuation factors considered. Truck usage and vehicle speeds on study area roadways were estimated from Caltrans data and from field observations (Caltrans 2010:251).



Source: Data collected by AECOM in 2010

Ambient Sound Monitoring **Figure 3.3-2**

TABLE 3.3-1. SUMMARY OF SHORT–TERM, AMBIENT NOISE LEVELS MONITORED DURING THE DAYTIME

Site	Location	Date/Time	Noise Sources	A-Weighted Sound Level (dBA)				
				L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}
1	SVRA west boundary, 130 feet east of Larkin Road	April 24, 2010 11:00 a.m.–12:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	59.9	82.4	55.0	44.9	37.2
		April 24, 2010 12:00–1:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	55.7	76.7	56.7	48.2	38.1
		April 24, 2010 1:00–2:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	64.4	97.6	55.0	46.0	36.2
		April 24, 2010 2:00–3:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	66.8	97.5	57.9	48.0	39.5
2	SVRA center, 825 feet south of Larkin Road and 1,045 feet west of Clay Pit SVRA east boundary	April 24, 2010 11:00 a.m.–12:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	52.2	79.7	51.9	44.6	39.2
		April 24, 2010 12:00–1:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	54.3	71.8	57.1	47.6	42.7
		April 24, 2010 1:00–2:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	65.2	90.7	60.0	48.8	41.3
		April 24, 2010 2:00–3:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	52.3	74.8	52.4	44.5	40.1
3	SVRA east boundary, 610 feet south of Larkin Road	April 24, 2010 11:00 a.m.–12:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	60.1	87.0	55.8	50.1	42.1
		April 24, 2010 12:00–1:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	54.9	77.0	56.9	50.4	42.7
		April 24, 2010 1:00–2:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	69.2	95.3	65.2	52.6	44.6
		April 24, 2010 2:00–3:00 p.m.	OHVs, traffic on Larkin Road, aircraft overflights	51.5	74.2	51.6	43.4	38.7

Notes: L_{eq} = the equivalent hourly average noise level; L_{max} = maximum noise level; L_{10} = the noise level exceeded 10% of a specific period of time; L_{50} = the noise level exceeded 50% of a specific period of time; L_{90} = the noise level exceeded 90% of a specific period of time.
Monitoring locations correspond to those depicted in Figure 3.3-2.
Source: Data collected by AECOM in 2010

Table 3.3-2 summarizes the modeled traffic noise levels, provides noise levels at 100 feet from the centerline of each major roadway, and lists distances from the roadway centerlines to the 60 dBA, 65 dBA, and 70 dBA L_{dn} traffic noise contours. These traffic noise modeling results are based on existing peak-hour traffic volumes. As shown in Table 3.3-2, the location of the 60 dBA L_{dn} contour ranges from 2 to 234 feet from the centerline of the modeled roadways. The extent to which existing land uses in the project area are affected by existing traffic noise depends on their proximity to the roadways and their individual sensitivity to noise.

TABLE 3.3-2. SUMMARY OF EXISTING TRAFFIC NOISE LEVELS MODELED IN THE PLANNING AREA

Roadway	Segment		L_{dn}, 100 Feet from Roadway Centerline (dBA)	Distance (feet) from Roadway Centerline to L_{dn} Contour		
	From	To		70 dBA	65 dBA	60 dBA
Saturday Afternoon						
SR 162	SR 99	Larkin Road	60	21	46	98
SR 162	Larkin Road	SR 70	64	37	80	173
Larkin Road	SR 162	Challenger Avenue	59	18	39	83
Larkin Road	Challenger Avenue	SVRA Access	60	20	43	92
Larkin Road	SVRA Access	Airport Park	59	19	40	86
Larkin Road	Airport Park	Hamilton Road	59	19	42	90
Larkin Road	Hamilton Road	to the south	58	17	36	77
Challenger Avenue	Larkin Road	to the west	37	1	1	3
SVRA Access	Larkin Road	to the south	41	1	2	5
Airport Park	Larkin Road	to the north	43	2	3	7
Hamilton Road	Larkin Road	to the west	45	2	5	10
Weekdays						
SR 162	SR 99	Larkin Road	61	23	51	109
SR 162	Larkin Road	SR 70	66	50	108	234
Larkin Road	SR 162	Challenger Avenue	62	30	65	139
Larkin Road	Challenger Avenue	SVRA Access	63	32	69	148
Larkin Road	SVRA Access	Airport Park	54	9	19	41
Larkin Road	Airport Park	Hamilton Road	61	27	58	125
Larkin Road	Hamilton Road	To the south	60	22	48	104
Challenger Avenue	Larkin Road	To the west	44	2	4	9
SVRA Access	Larkin Road	To the south	35	0	1	2
Airport Park	Larkin Road	To the north	49	4	9	19
Hamilton Road	Larkin Road	To the west	47	3	7	14

Notes: dBA = A-weighted decibels; L_{dn} = day-night average noise level. See Figure 3.1-1 for roadway locations.
Source: Modeled by AECOM in 2010

Existing Aircraft Flyover Noise

Airports that are either public or serve a scheduled airline are required to have a comprehensive land use plan (CLUP) prepared by the airport land use commission (ALUC). The purpose of ALUC is to:

- protect public health, safety, and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise and
- prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utility of these airports into the future.

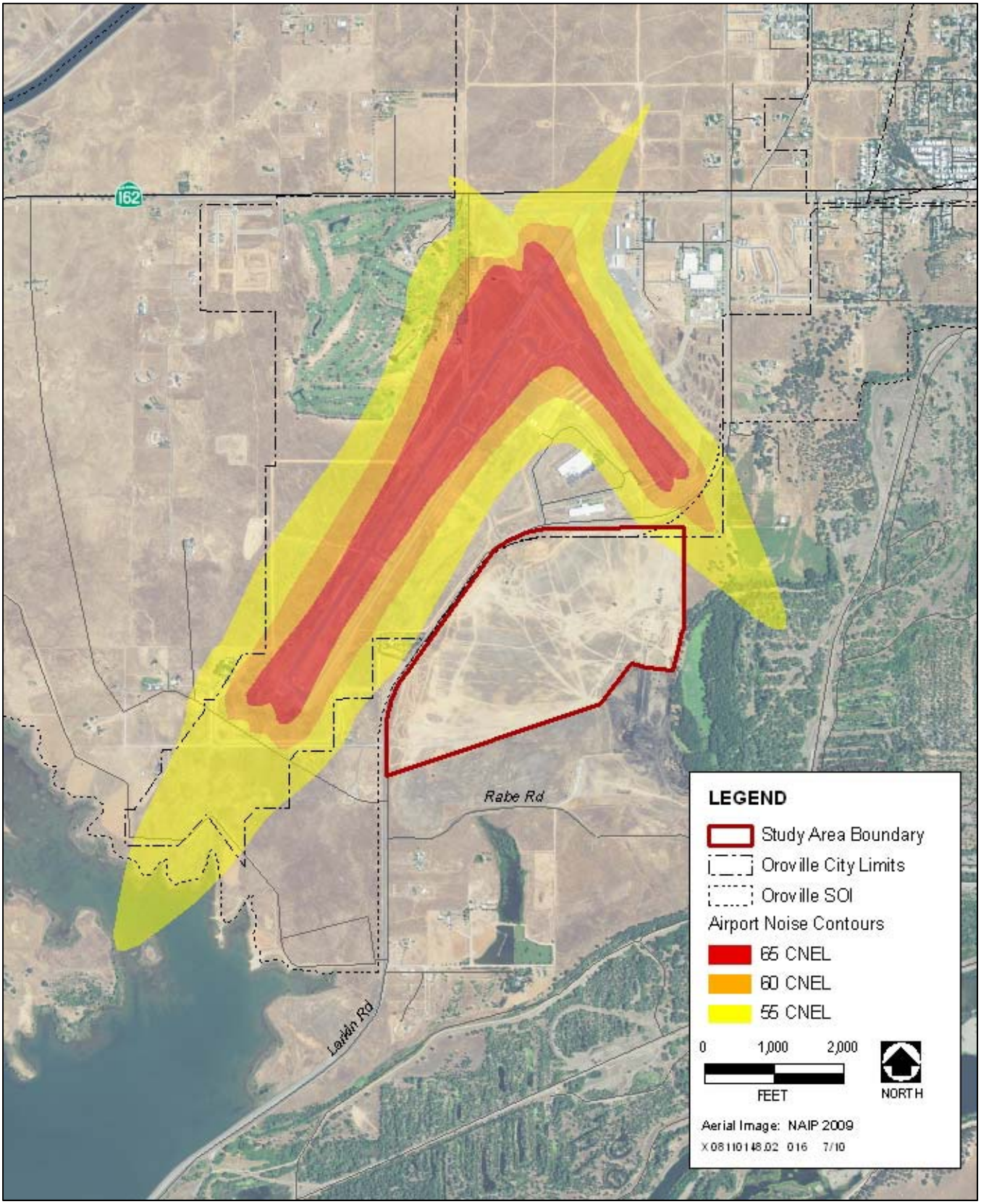
The adoption and implementation of a CLUP embodies the land use compatibility guidelines for height, noise, and safety. The Butte County ALUC is the ALUC for public use airports in Butte County.

The closest airport to Clay Pit SVRA is the Oroville Municipal Airport, located at the northern and western boundaries of the project site (Figure 3.3-3). The Oroville Municipal Airport has two runways: Runway 1–19 (6,020 feet long and 100 feet wide) and Runway 12–30 (3,540 feet long and 100 feet wide). The airport does not have an air traffic control tower and is operated as a noncontrolled airport (City of Oroville 2010).

Three main apron areas exist on the airfield, with the largest apron area located around the Table Mountain Aviation Fixed Based Operator (FBO) buildings. The FBO apron area is home to fuel tanks and 38 tie-downs for parking aircraft. The second largest apron area is located in the midfield area of the airfield, south of Runway 19, and is home to 76 tie-downs. The third apron area is located east of the Table Mountain Golf Course and provides space for five tie-downs (City of Oroville 2010).

In 2005 the airport was home to 25 single-engine fixed-wing aircraft, two multi-engine fixed-wing aircraft, one helicopter, and four ultra-light aircraft. A total of 36,000 aircraft operations were recorded and itinerant aviation traffic was accounted for 20,000 of the 36,000 operations. Approximately 96% of aircraft operations were related to general (not business related) aviation. Business-related traffic contributed 1,500 air taxi operations (City of Oroville 2010).

The majority of Clay Pit SVRA project site is located outside the 55 dBA CNEL noise contour identified for 2010 aircraft traffic at the Oroville Municipal Airport (Figure 3.3-3) (City of Oroville 1990:35–36).



Source: City of Oroville 1990

Oroville Municipal Airport Noise Contours **Figure 3.3-3**

3.3.2 Regulatory Setting

Section 2.7.3, "Regulatory Influences," of the Clay Pit SVRA General Plan provides a description of the state standards, including the Off-Highway Motor Vehicle Recreation Act of 2003 and California Vehicle Code Section 38370, related to noise at and surrounding Clay Pit SVRA. No federal or regional plans, policies, laws, or ordinances have regulatory significance related to noise.

3.3.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to noise if it would:

- result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- expose people residing or working in the project area to excessive noise levels;
- expose persons to or generate excessive groundborne vibration or groundborne noise levels;
- for a project located within the area of an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; or
- for a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Generally, a project may have a significant effect on the environment if it would substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been implemented. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local or regional planning criteria or ordinances or substantially increase noise levels at noise-sensitive land uses.

For the Clay Pit SVRA General Plan, the significance of anticipated noise effects is based on a comparison between predicted noise levels and noise criteria defined by Caltrans and the Federal Transit Administration (FTA). Noise impacts would be considered significant if:

- existing or proposed noise-sensitive land uses were exposed to a 5-dBA increase in ambient noise levels, an increase considered "readily perceptible" by Caltrans (Caltrans 2009:7-5);

- sensitive receptors were exposed to vibration levels that exceeded Caltrans' recommended standard of 0.2 in/sec PPV concerning the prevention of structural damage for normal buildings, or the FTA's maximum acceptable vibration standard of 80 VdB concerning human response for residential uses (i.e., annoyance) at any existing sensitive land use near the project site; or

- traffic volumes increased 100% (doubled) as a result of construction haul truck traffic, thereby resulting in a significant temporary increase traffic noise (Caltrans 2009:7-5).

Because Clay Pit SVRA is owned and operated by the State of California and is not subject to compliance with Butte County policies or ordinances, these policies were not used as thresholds of significance in this EIR analysis. However, it is the intent of the OHMVR Division to develop the SVRA in a manner compatible with the values expressed by the surrounding community; therefore, these policies and ordinances were considered as part of this environmental evaluation. Noise standards from the Noise Element of the *Butte County General Plan* indicate that within Butte County jurisdiction noise impacts are considered significant if existing or proposed noise-sensitive land uses would be exposed to exterior noise levels in excess of 60 dBA L_{dn} or interior noise levels in excess of 45 dBA L_{dn} (Butte County 2010:272–273).

According to the *Butte County Airport Land Use Compatibility Plan* (2000) (ALUCP), the majority of the Clay Pit SVRA project site is not located within Oroville Municipal Airport noise contours. A small portion in the northeast of the project site is located within Oroville Municipal Airport's 55 dBA CNEL noise contour, and portions of the project site are located in areas identified as B2 (extended approach/departure zone) and C (traffic pattern) zone (Butte County 2000:2-14, 3-9). Facilities and land use envisioned in the Clay Pit SVRA General Plan would meet land use compatibility criteria specified in the ALUCP and would not be considered a prohibited or conditional use based on noise level contours. Therefore, the project would not result in exposing people residing or working in the project area to excessive noise levels created by airport operations for an extended period of time; these issues are not discussed further in this DEIR.

3.3.4 Environmental Evaluation

Evaluation Methodology

Noise from increased recreational activities associated with OHV use under the Clay Pit SVRA General Plan and after completion of the headquarters facilities was estimated based on noise level restrictions provided in the State of California Vehicle Code. According to the Vehicle Code, Section 38370(h) (1):

> Noise emissions of competition off-highway vehicles manufactured on or after January 1, 1998, shall be limited to not more than 96 dBA, and if manufactured prior to January 1, 1998, to not more than 101 dBA, when measured from a distance of 20 inches using test procedures established by the Society of Automotive Engineers under Standard J-1287, as applicable. Noise emissions of all other off-highway vehicles shall be limited to not more than 96 dBA if manufactured on or after January 1, 1986, and not more than 101 dBA if manufactured prior to January 1, 1986, when measured from a distance of 20 inches using test procedures established by the Society of Automotive Engineers under Standard J-1287, as applicable.

For the purposes of this analysis, OHVs operating at Clay Pit SVRA are assumed to generate noise levels not exceeding 96 dBA at a distance of 20 inches.

To assess potential short-term noise impacts caused by construction of the project, nearby sensitive receptors and their relative exposure to the noise were identified. The noise levels from project construction that could be heard at these sensitive receptors were predicted using the federal *Transit Noise and Vibration Impact Assessment* (FTA 2006: Chapter 12).

Regarding project-generated increases in traffic noise, AECOM created models of noise levels at affected roadway segments (e.g., Larkin Road) using the FHWA Highway Traffic Noise Prediction Model (RD-77-108) (FHWA 1978) and traffic data (e.g., ADT volumes, vehicle speeds, percent distribution of vehicle types) from KD Anderson & Associates (2011). This model is based on the CALVENO reference noise emission factors for automobiles, medium trucks, and heavy trucks and it accounts for vehicle volume, speed, roadway configuration, distance to the receiver, and ground attenuation factors. The model does not assume the noise would be shielded by anything natural or human-made (e.g., vegetation, berms, walls, buildings). Increases in traffic noise levels attributable to the project were calculated by comparing the predicted noise levels at 100 feet from the centerline of the road with and without project-generated traffic under existing and cumulative conditions.

Concerning non transportation noise sources (e.g., construction sources) associated with project implementation, the long-term impacts caused by project operations were assessed using reconnaissance data, existing documentation, and standard attenuation rates and modeling techniques.

To assess the potential exposure of sensitive receptors to and generation of excessive groundborne vibration and noise levels, sensitive receptors and their relative exposure were determined by reviewing vibration levels documented for specific sources and using standard modeling procedures as recommended by guidance from federal and state agencies (Caltrans 2002; FTA 2006).

General Plan Impact Analysis

IMPACT 3.3-1 Increased Off-Site Noise Levels Related to OHV Use

While conducting the community noise survey for this DEIR during the peak activity season, OHV activity was audible at off-site sensitive receptors (i.e., residences). Therefore, OHV use currently contributes to ambient sound levels at nearby residences during the peak season. Additionally, when surrounding traffic noise is low, such as on weekends, OHV activities at Clay Pit SVRA would be more audible to people using the outside areas at these residences.

OHV use within the SVRA is estimated to increase by 50% following buildout of the facilities envisioned in the General Plan. This increase in OHV activity would result in an approximately 1.5-dBA increase (Caltrans 2009:7-5) in noise levels during periods of peak use over current noise levels near the closest noise-sensitive receptor, which is a residence on Larkin Road (66.8 dBA L_{eq}, Table 3.3-1). Special events are anticipated to attract approximately the same numbers of visitors and OHVs as a typical peak use day. Therefore, noise levels for special events are also anticipated to produce an approximately 1.5-dBA noise level increase. This estimated 1.5-dBA noise level increase would not exceed the established threshold of a 5-dBA increase in ambient noise levels, which is considered "readily perceptible" (Caltrans 2009:7-5).

Because off-site noise levels related to OHV use would increase less than 5 dBA, noise from increased recreational activities following implementation of the General Plan, including construction and operation of the headquarters facilities, would be a ***less-than-significant*** impact.

Mitigation Measures: No mitigation is required.

IMPACT 3.3-2 Increased Off-Site Noise Levels Related to Traffic

Traffic noise modeling was conducted using the FHWA Highway Traffic Noise Prediction Model and traffic data provided by the project traffic engineer (KD Anderson & Associates 2011). Traffic noise modeling was conducted for both the existing conditions and for future conditions with and without implementation of the Clay Pit SVRA General Plan.

Traffic noise predictions are based on 24-hour roadway counts and peak-hour intersection counts. Traffic volumes were taken from the project traffic report (KD Anderson & Associates 2011). For modeling purposes, future (Year 2030) roadway geometries, traffic mix, and speed conditions are assumed to remain the same as existing conditions. Table 3.3-4 summarizes the modeling and predicted noise level increases expected following implementation of the General Plan.

TABLE 3.3-4. SUMMARY OF FUTURE NOISE LEVELS MODELED FOR TRAFFIC IN THE PLANNING AREA

Roadway	Segment		Existing Conditions (dBA)*	Future Conditions (dBA)*	Project Net Change	Significant Impact?
	From	To				
Saturday Afternoon						
SR 162	SR 99	Larkin Road	60	61	+1	No
SR 162	Larkin Road	SR 70	64	64	0	No
Larkin Road	SR 162	Challenger Avenue	59	60	+1	No
Larkin Road	Challenger Avenue	SVRA Access	60	60	0	No
Larkin Road	SVRA Access	Airport Park	59	60	+1	No
Larkin Road	Airport Park	Hamilton Road	59	59	0	No
Larkin Road	Hamilton Road	To the south	58	58	0	No
Challenger Avenue	Larkin Road	To the west	37	37	0	No
SVRA Access	Larkin Road	To the south	41	47	+6[a]	No
Airport Park	Larkin Road	To the north	43	43	0	No
Hamilton Road	Larkin Road	To the west	45	45	0	No
Weekdays						
SR 162	SR 99	Larkin Road	61	61	0	No
SR 162	Larkin Road	SR 70	66	66	0	No
Larkin Road	State Route 162	Challenger Avenue	62	63	+1	No
Larkin Road	Challenger Avenue	SVRA Access	63	63	0	No
Larkin Road	SVRA Access	Airport Park	54	57	+3[a]	No
Larkin Road	Airport Park	Hamilton Road	61	61	0	No
Larkin Road	Hamilton Road	To the south	60	60	0	No
Challenger Avenue	Larkin Road	To the west	44	44	0	No
SVRA Access	Larkin Road	To the south	35	46	+11[a]	No
Airport Park	Larkin Road	To the north	49	49	0	No
Hamilton Road	Larkin Road	To the west	47	47	0	No

Notes: dBA = A-weighted decibels; L_{dn} = day-night average noise level. See Figure 3.1-1 for roadway locations.

* Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

a No sensitive receptors are located adjacent to these locations.

Source: Modeled by AECOM in 2010, Appendix D

The extent to which noise-sensitive receptors in the project area are affected by traffic noise depends on their respective proximity to the roadways and their individual sensitivity to traffic noise. The primary roadway of concern for traffic noise is Larkin Road because Larkin Road provides primary access to Clay Pit SVRA. The receptor nearest to the SVRA along Larkin Road is a residence located approximately 115 feet west of Larkin Road, just south of Airport Park. This residence is approximately 130 feet from the Larkin Road centerline; thus, existing traffic noise levels at this residence are estimated to be approximately 60 dBA L_{dn}.

Future traffic levels were projected based on the existing number of vehicles entering the SVRA, future population growth in Butte County, and improvements at the SVRA (e.g., new tracks, trails, entrance facilities). Implementation of the General Plan, including construction and operation of the headquarters facilities, is projected to result in 19,837 total vehicles accessing Clay Pit SVRA annually (approximately 55 vehicles daily). As shown in Table 3.3-4, future increases in traffic noise levels would range from 0 dBA to 11 dBA L_{dn}. The greatest increase would occur along the SVRA access road from Larkin Road and to the south. However, no noise-sensitive receptors are adjacent to this roadway segment. In areas where larger increases in traffic noise are accountable to the project, low traffic volumes currently exist, so although increases may occur in these areas, the overall noise level would remain well below 60 dBA L_{dn} following project implementation. Where noise-sensitive receptors are located on Larkin Road between Airport Park and Hamilton Road, future increases in traffic would result in no increase in noise levels (Table 3.3-4). Construction activities are anticipated to result in a short-term, temporary addition of approximately 60 haul trucks per day for 42 days along Larkin Road and SR 162. The existing peak-hour traffic volume along Larkin Road between the SVRA access road and SR 162 is 426 trips per day, and the existing peak-hour traffic volume along SR 162 between SR 99 and Larkin Road is 280 trips per day. Additional traffic volumes generated by construction activities would be less than 15% of peak hour traffic along Larkin Road and would be less than 22% of peak hour traffic along SR 162. For construction activities to create a significant increase (+3 dBA) in traffic noise, the number of trips would need to double (i.e., increase 100%). The increase in traffic from construction activities would be substantially less than 100%.

Because implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities, would not increase off-site traffic noise levels at noise-sensitive receptors, and because construction activities would increase off-site traffic noise levels by an insubstantial amount (less than 3 dBA), off-site noise levels related to traffic would be a ***less-than-significant*** impact.

Mitigation Measures: No mitigation is required.

IMPACT 3.3-3 Exposure of Sensitive Receptors to Groundborne Noise and Vibration Levels from SVRA Operations

Construction of new facilities and operation of Clay Pit SVRA (e.g., maintenance activities and increased use of OHVs) have the potential to result in varying degrees of temporary ground vibration, depending on the specific equipment used and operations involved. Vibration spreads through the ground and diminishes in magnitude with increases in distance. Table 3.3-4 displays vibration levels for typical construction and maintenance equipment; vibration produced by OHVs would be substantially less.

TABLE 3.3-4. TYPICAL VIBRATION LEVELS CAUSED BY CONSTRUCTION AND MAINTENANCE EQUIPMENT

Equipment	PPV at 25 feet (in/sec)	Approximate Lv at 25 feet[1]
Large bulldozer	0.089	87
Trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Notes: in/sec = inches per second; PPV = peak particle velocity.
[1] Where Lv is the velocity level in decibels and based on the root mean square velocity amplitude.
Source: FTA 2006:12-12

Vibration levels generated during construction and maintenance would fluctuate depending on the specific location of activities in Clay Pit SVRA and on the particular type, number, and duration of use of various pieces of construction and maintenance equipment. Equipment required for construction and maintenance activities could include concrete mixer/pump trucks, graders, pneumatic tools, and various other trucks. The most intense generation of ground vibration would be associated with bulldozers that generate levels of 0.089 in/sec PPV and 87 VdB at a distance of 25 feet. These levels would attenuate to 0.0052 in/sec PPV and 62 VdB at a distance of 165 feet (i.e., the distance to the closest sensitive receptor to construction activities) (Appendix D). Because these levels would not exceed Caltrans' or FTA's standards of 0.2 in/sec PPV and 80VdB respectively, these temporary and short-term vibration impacts would be a ***less-than-significant*** impact.

Mitigation Measures: No mitigation is required.

IMPACT 3.3-4 Increase in Temporary Short-Term Off-Site Noise Levels during Construction and Maintenance

Construction and maintenance activities associated with the construction of facilities envisioned in the Clay Pit SVRA General Plan would generate short-term, temporary, and intermittent noise at or near individual noise-sensitive locations in the project area. Noise levels generated during construction and maintenance would fluctuate depending on the physical location of construction activities at the SVRA, and on the particular type, number, and duration of use of various pieces of

equipment. Noise levels from construction and maintenance activities are typically considered a point source, and drop off at a rate of 6 dBA per doubling of distance over hard site surfaces, such as streets and parking lots. Noise levels drop off at a rate of approximately 7.5 dBA per doubling of distance over soft site surfaces, such as grass fields and open terrain with vegetation (FTA 2006:2-10 through 2-11).

Equipment required for construction and maintenance activities at Clay Pit SVRA would include a paver, backhoe, bulldozer, tractor, and various trucks. The maximum noise levels produced by one of these types of equipment, at a distance of 50 feet and without the implementation of noise controls, could range from 80 to 85 dBA L_{max} (Table 3.3-5). Noise levels vary for individual pieces of equipment because equipment comes in different sizes and with different engines. Noise levels for construction equipment also vary as a function of the activity level or duty cycle. Typical construction projects, with equipment moving from one point to another, including work breaks and idle time, have long-term noise averages that are lower than many short-term noise events. Additionally, noise levels are calculated from the center of the activity because of the dynamic nature of a construction site. Using these parameters, construction activities, including the simultaneous operation of multiple pieces of equipment, were modeled to generate a combined noise level of 86 dBA L_{eq} at 50 feet from the center of construction activity (Appendix D).

TABLE 3.3-5. TYPICAL NOISE LEVELS CAUSED BY CONSTRUCTION EQUIPMENT[1]

Equipment Type	Typical Noise Level (dBA L_{max}) at 50 feet	Equipment Type	Typical Noise Level (dBA L_{max}) at 50 feet
Backhoe	80	Generator	82
Concrete mixer truck	85	Grader	85
Concrete pump truck	82	Paver	85
Dozer	85	Tractor	84
Dump truck	84		

Notes: dBA = A-weighted decibels

[1] All equipment fitted with properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are the actual measured noise levels for each piece of heavy construction equipment.

Sources: BBN 1981:8-4 through 8-5; FTA 2006:12-6 through 12-7; FHWA 2006:3

The closest residence along Larkin Road is located approximately 165 feet from the western SVRA boundary. The intervening ground type is primarily open space and is considered acoustically soft. Construction and maintenance activities primarily would occur within the Developed Use Area, located in the northwestern portion of Clay Pit SVRA. When modeled using FTA noise methodology (FTA 2006:12-1 through 12-15) and the above parameters, noise from construction and maintenance activities would generate a combined noise level of 72 dBA L_{eq} at this residence along Larkin Road (Appendix D).

Construction noise would be temporary and the existing noise environment surrounding Clay Pit SVRA is already relatively loud because of OHV use, traffic along Larkin Road, and aircraft operations at the Oroville Municipal Airport. However, anticipated noise levels generated by construction and maintenance activities (72 dBA L_{eq}) could exceed existing noise levels at this residence by 5 to 16 dBA. (This residence is located in the 55 CNEL noise contour for the Oroville Municipal Airport (Figure 3.3-3), and ambient noise levels measured at the western boundary of the SVRA closest to this noise-sensitive receptor ranged from 55.7 to 66.8 dBA L_{eq} [Table 3.3-1]). This 5- to 16-dBA noise level increase would exceed the established significance threshold of a 5-dBA increase in ambient noise levels (Caltrans 2009:7-5).

However, Clay Pit SVRA General Plan OM Guideline 5.2 requires implementation of a number of noise-reduction measures during construction and maintenance activities within 500 feet of this residence. Implementing these measures would reduce temporary, short-term construction and maintenance noise impacts within 500 feet of noise-sensitive receptors such that ambient noise levels would increase less than 5 dBA. These measures include restrictions on hours of operation, equipment movements, noise barriers, additional noise muffling devices on equipment, and idling restrictions that would reduce noise related to construction activities. Therefore, with implementation of OM Guideline 5.2 increases in temporary short-term off-site noise levels during construction and maintenance activities would be a ***less-than-significant*** impact.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. The discussion of potential vibration impacts related to construction and operation of the SVRA (Impact 3.3-3) is also applicable to construction and operation of the headquarters facilities alone; therefore, no additional analysis related to the headquarters facilities is necessary. Likewise, discussion of potential noise impacts related to construction of facilities envisioned in the Clay Pit SVRA General Plan (Impact 3.3-4) is applicable to the headquarters facilities alone and no additional analysis is necessary.

The following analysis addresses a potential impact specific to the operation of the headquarters facilities alone. This potential impact is different from (i.e., less than) the potential impacts described above that could be caused by implementing the rest of the General Plan elements.

IMPACT 3.3-5 Increased Off-site Noise Levels Related to Operation of the Headquarters Facilities

Operation of the headquarters facilities would involve the addition of minimal noise associated with no more than five employees coming and going to and from work. However, construction of

the headquarters facilities would include the construction of an entry kiosk, which would facilitate the collection of an entrance fee. Because no entrance fee is collected currently, the number of visitors to Clay Pit SVRA is expected to decline during the time period between construction of the headquarters facilities and construction of new OHV facilities. A decrease in visitors would reduce off-site noise related to traffic and OHV use and the project would cause ***no impact***.

Mitigation Measures: No mitigation is required.

3.3.5 Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant noise impacts on noise-sensitive receptors. Constructing and operating the headquarters facilities would also not result in significant noise impacts.

3.3.6 Mitigation Measures

No significant impacts on noise resources would result with implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

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3.4 Visual Resources

This section presents details on the existing setting and regulatory setting for visual resources. It also includes an analysis of the visual impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.4.1 Existing Setting

This section describes additional setting information to supplement the visual setting information provided in Section 2.3.4, "Aesthetic Resources," of the Clay Pit SVRA General Plan. The General Plan describes the features of the project site, including the broad, flat, dirt basin containing scattered pools, grasses, and trees, and the views of the surrounding area, including the grassland terrace, the airport, the shooting range, farmland, one residence, the Sierra Nevada, and the Sutter Buttes. The General Plan also includes photos from five viewpoints at Clay Pit SVRA.

Area Surrounding the Project Site

The topography of the surrounding area is relatively flat and the dominant feature is open annual grassland interspersed with stands of trees. The terrain exhibits small undulations associated with the vernal pool features within the grasslands. The area to the east and south of the project site is characterized by riparian forest growing within dredge tailings along the Feather River. The airport is located to the northwest of the project site; this area is characterized by low-rise construction and roadways with grasslands between runways and surrounding the widely spaced structures.

Project Viewshed

Views of the site are primarily from Larkin Road, which wraps around the north and west sides of the project site. From the west side of the site the viewshed incorporates the project site in the foreground, the riparian vegetation in the DFG Oroville Wildlife Management Area in the middle ground, and the Sierra Nevada in the background above the trees. From the north side of the site the viewshed incorporates the project site with the riparian vegetation along the Feather River in the wildlife refuge on the left side of the view, and to the southwest, the Sutter Buttes can be seen in the distance.

Visual Quality

The views of the site and across the site are considered low to moderate quality based on visual resource evaluation methodology developed by FHWA, which uses the concepts of vividness, unity, and intactness to assign visual quality to scenic resources (FHWA 1988). Visual resources in the middleground and background, consisting of distant views of the trees at the DFG wildlife preserve and the Sierra Nevada, are of moderate value; however, the disturbed area in the Clay Pit dominates the foreground and detracts from these higher quality background views.

Visual Sensitivity

Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of the viewers to the visual resource, elevation of the viewers relative to the visual resource, frequency and duration of views, numbers of viewers, and types and expectations of individuals and viewer groups.

Viewing groups with high sensitivity to visual change are generally those who experience a view for a long period of time, such as residents or recreationists engaged in nature appreciation, hiking, or camping, and who have a high degree of concern regarding the visual resource. Viewers engaged in passing along the roadway or who are engaged in motorized sports generally have a lower level of sensitivity to visual changes because their focus is on the roadway, terrain, and other vehicles as they maneuver and avoid obstacles. Primary viewing groups of the Clay Pit SVRA site would be travelers passing by the site on Larkin Road and visitors to the site taking part in activities related to OHVs. Those passing by on Larkin Road include visitors entering or leaving the airport, visitors to the DFG shooting range located on the south side of the SVRA, and people traveling to other destinations on Larkin Road. Because the focus of travelers on Larkin Road would be primarily on driving and the roadway, they would not be considered sensitive viewers. Site visitors engaged in OHV use would not be considered a sensitive viewing group, since the focus of their attention would be on other riders, the terrain, and obstacles. Additionally, because of the disturbed nature of the site, it would not be anticipated that viewers would have high expectations regarding visual resources on the site. Therefore, viewer sensitivity for the primary viewer groups is considered low.

3.4.2 Regulatory Setting

This section describes additional planning information related to visual resources to supplement information provided in Section 2.7, "Planning Influences," of the Clay Pit SVRA General Plan.

No federal or state plans, policies, regulations, or laws apply to visual resources at Clay Pit SVRA.

Because the SVRA is owned by the State of California, it is not subject to compliance with Butte County policies or ordinances. However, it is the intent of the OHMVR Division to develop the SVRA in a manner compatible with the values expressed by the surrounding community. Although these policies and ordinances were not used as thresholds of significance, they were considered during this environmental evaluation. The Conservation and Open Space Element of the *Butte County General Plan 2030,* adopted October 26, 2010, contains goals and policies that address scenic resources in the county. The intent of the goals and policies is to maintain views of Butte County's scenic resources, including water features, unique geologic features, wildlife habitat areas, and ridgelines (Goal COS-17, Policies COS-P17.1, COS-P17.2). Additionally, the Conservation and Open Space Element identifies scenic corridors with the aim of protecting scenic areas visible from highways (Goal COS-18, Policy COS-P18.1) (Butte County 2010:263-266). One scenic

resource identified in the Conservation and Open Space Element that is visible from Clay Pit SVRA is Table Mountain, which is visible in background views from the site. No scenic corridors are located along highways in the vicinity of the SVRA.

3.4.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to visual resources if it would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area; or
- substantially degrade the existing visual character or quality of the site and its surroundings.

Because an assessment of visual quality is often a subjective matter, one can debate whether a change in the visual character of a project site would be beneficial or adverse (thus causing a degradation of the visual quality). For this analysis, a conservative approach was used, and a substantial change to the visual character of the project site would be considered an adverse impact. Therefore, a substantial change to the visual character of the project site would be considered a degradation of the resource, and a potentially significant impact.

The project site is not on or near a state scenic highway or a county-designated scenic highway; therefore, this topic is not addressed further in this DEIR (Caltrans 2010).

3.4.4 Environmental Evaluation

Evaluation Methodology

The visual impact analysis is based on field observations conducted by AECOM in March 2010 and a review of maps and aerial photographs. Potential changes to existing visual resources that would result from project implementation were evaluated. In determining the extent and implications of the visual changes, consideration was given to:

- specific changes in the visual composition, character, and valued qualities of the affected environment;

- the visual context of the affected environment;
- the extent to which the affected environment contains places or features that have been designated in plans and policies for protection or special consideration; and
- the number of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by the project-related changes.

General Plan Impact Analysis

IMPACT 3.4-1 Effect on Scenic Vistas or Visual Character of the Site or its Surroundings

Views of the project site and beyond seen from Larkin Road are considered of moderate quality. Views to the south and east are free of intrusive elements, such as utility lines and structures, and provide unobstructed views of the surrounding grasslands, riparian area, and the Sierra Nevada in the distance. However, the disturbed nature of the site detracts from these vistas. The area to the north and west of the site is occupied by the airport, which lowers the visual quality of views to the north and northwest. The project site is characterized by its use as an OHV facility, while the surrounding area is characterized by its use as an airport and related industrial park, a shooting range, and a wildlife area. Generally, the character of the area is rural and recreation oriented.

Most of the area designated in the Clay Pit SVRA General Plan for developed uses is located within the excavated basin. Therefore, most facilities envisioned in the General Plan, such as OHV tracks, would be built at or below the elevation of the surrounding viewshed, thus keeping existing scenic views largely unobstructed. (See Impact 3.4-3 below for discussion of effects to scenic vistas and visual character related to the headquarters facilities.) The recreation facilities envisioned in the General Plan are also consistent with the existing recreation-oriented character of Clay Pit SVRA and surrounding area. Although implementation of the General Plan would create a more developed project site, the character of the site as an OHV park would remain largely unchanged.

In addition, Clay Pit SVRA General Plan DU Guideline 2.2 requires that facilities be constructed using materials that complement the nearby natural areas, which would ensure that the appearance of structures in the Developed Use Area would not substantially detract from the views across the site, and DU Guideline 2.3 requires that landscaping be used to soften the appearance of the maintenance yard and buildings. Finally, implementing goals and guidelines related to water, soils, natural resource management, plants, and wildlife provided in the General Plan would reduce erosion and protect natural habitats on the site, which would reduce the potential for degradation of scenic resources and improve existing on-site scenic resources.

Because most facilities would be constructed below the elevation of the surrounding viewshed, and because the Clay Pit SVRA General Plan includes goals and guidelines that would protect

scenic vistas from degradation, and because the general character of the site would remain the same, implementing the General Plan would not have a substantial adverse effect on a scenic vista or on the visual character of the area. This impact would be ***less than significant.***

Mitigation Measures: No mitigation is required.

IMPACT 3.4-2 Increase of Light or Glare

Clay Pit SVRA hours of operation would be restricted to daylight hours, and thus outdoor lighting would not be required for the OHV activity areas. (See Impact 3.4-4 below for discussion of light and glare related to the headquarters facilities.) Facilities envisioned in the General Plan would not require the use of substantial reflective surfaces, such as windows or tin roofs. In addition, Clay Pit SVRA General Plan DU Guideline 2.2 requires that facilities be constructed without the use of highly polished or reflective materials (e.g., reflective windows). Therefore, no adverse effects are anticipated as a result of increased light or glare, and this impact would be ***less than significant.***

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The following analyses are related yet different from the potential impacts described previously under "General Plan Impact Analysis." They addresses potential impacts specific to the construction or operation of the headquarters facilities alone.

IMPACT 3.4-3 Effect on Scenic Vistas or Visual Character following Construction of the Headquarters Facilities

The headquarter facilities structures proposed in Chapter 4 of the Clay Pit SVRA General Plan would include an entrance kiosk, a headquarters and maintenance building with adjacent parking for staff, a maintenance yard and storage buildings, a new entry road, and accompanying amenities such as a propane tank, septic system, and well. They would be similar in appearance to nearby structures located at the airport; therefore, they would not substantially degrade the visual qualities of the area.

The headquarters facilities would be confined to the entrance area, would be single story, and would be small relative to the viewshed. For these reasons, they would not substantially obstruct views of the surrounding areas. In addition, the headquarters structures would be colored in earth tones to blend in with the surrounding area, which would minimize any effect of distracting from surrounding views. The headquarters structures would be similar in height to structures on the airport property to the north, and would be constructed in a style similar to structures at other

SVRAs. This construction would be consistent with the existing character of the project site as an OHV area, and with the surrounding rural recreation-oriented character. DU Guideline 2.2 would require that the appearance of storage buildings in the maintenance yard be consistent with the appearance of the headquarters buildings, which would minimize any potential for clashing styles that could be aesthetically unpleasing. DU Guideline 2.3 requires that landscaping be used to soften the appearance of the maintenance yard and buildings. Implementation of these guidelines would further reduce potential visual impacts.

Because the headquarters facilities would not substantially obstruct scenic views, and because the character of these facilities would be consistent with the existing character of the project site and the surrounding area, the headquarters facilities would not have a substantial adverse effect on a scenic vista or on the visual character of the area. This impact would be ***less than significant.***

Mitigation Measures: No mitigation is required.

IMPACT 3.4-4 Increase of Light or Glare following Construction of the Headquarters Facilities

Nighttime security lighting at the headquarters building would be installed for safety and security purposes, and would be similar to security lighting present at the Oroville Municipal Airport. DU Guideline 2.1 in the Clay Pit SVRA General Plan includes measures that would minimize potential light pollution. Exterior lighting would be restricted to entry and exit areas, light would be directed downward, and the height of parking lot lighting (if any) would be restricted. Sodium vapor lighting would not be permissible.

Headquarters facilities would not require a substantial use of reflective surfaces, such as windows or tin roofs. In addition, Clay Pit SVRA General Plan DU Guideline 2.2 requires that facilities be constructed without the use of highly polished or reflective materials (e.g., reflective windows).

Because nighttime security lighting at the headquarters facilities would be designed to avoid light pollution, and because these facilities would be constructed without the use of highly polished or reflective materials, light or glare from the headquarters facilities would not adversely affect daytime or nighttime views in the area. This impact would be ***less than significant.***

Mitigation Measures: No mitigation is required.

3.4.5 Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant impacts on visual resources. Construction of the headquarters facilities would also not result in significant impacts on visual resources.

3.4.6 Mitigation Measures

No significant impacts on visual resources would result with implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

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3.5 Biological Resources

This section presents details about the existing setting and the regulatory setting for biological resources. It also presents an analysis of the biological resources impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.5.1 Existing Setting

Section 2.3.2, "Biotic Resources," of the General Plan describes the biotic resources (e.g., habitats, common and special-status plant and wildlife species, sensitive natural communities) present at Clay Pit SVRA. Of particular importance is the natural vernal pool grassland on the terrace of the excavated basin, the disturbed vernal pool habitat within the basin, and the vernal pool fairy shrimp that live in these pools (Figure 3.5-1).

3.5.2 Regulatory Setting

Biological resources are subject to a variety of federal and state laws and regulations. Section 2.7, "Planning Influences," of the General Plan summarizes the federal, state, and regional plans, policies, regulations, and laws related to biological resources at Clay Pit SVRA. In particular, Section 2.7.3, "Regulatory Influences," includes a description of the federal Endangered Species Act (ESA); the Migratory Bird Treaty Act; Clean Water Act (CWA) Sections 404 and 401; the California Endangered Species Act (CESA); California Fish and Game Code regarding Fully Protected Species, protection of bird nests, and Streambed Alteration Agreements; and the California Porter-Cologne Water Quality Control Act. Section 2.7.1, "Systemwide Planning," also provides a description of the systemwide Wildlife Habitat Protection Program and the Habitat Management System (HMS) used to monitor, evaluate, and manage habitats within each SVRA.

3.5.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to biological resources if it would:

- 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 DFG or USFWS;

- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by DFG or USFWS;

- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (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 nursery sites by native wildlife;

- 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 habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state HCP.

- No nursery sites are located on the project site. This issue is not discussed further in this DEIR.

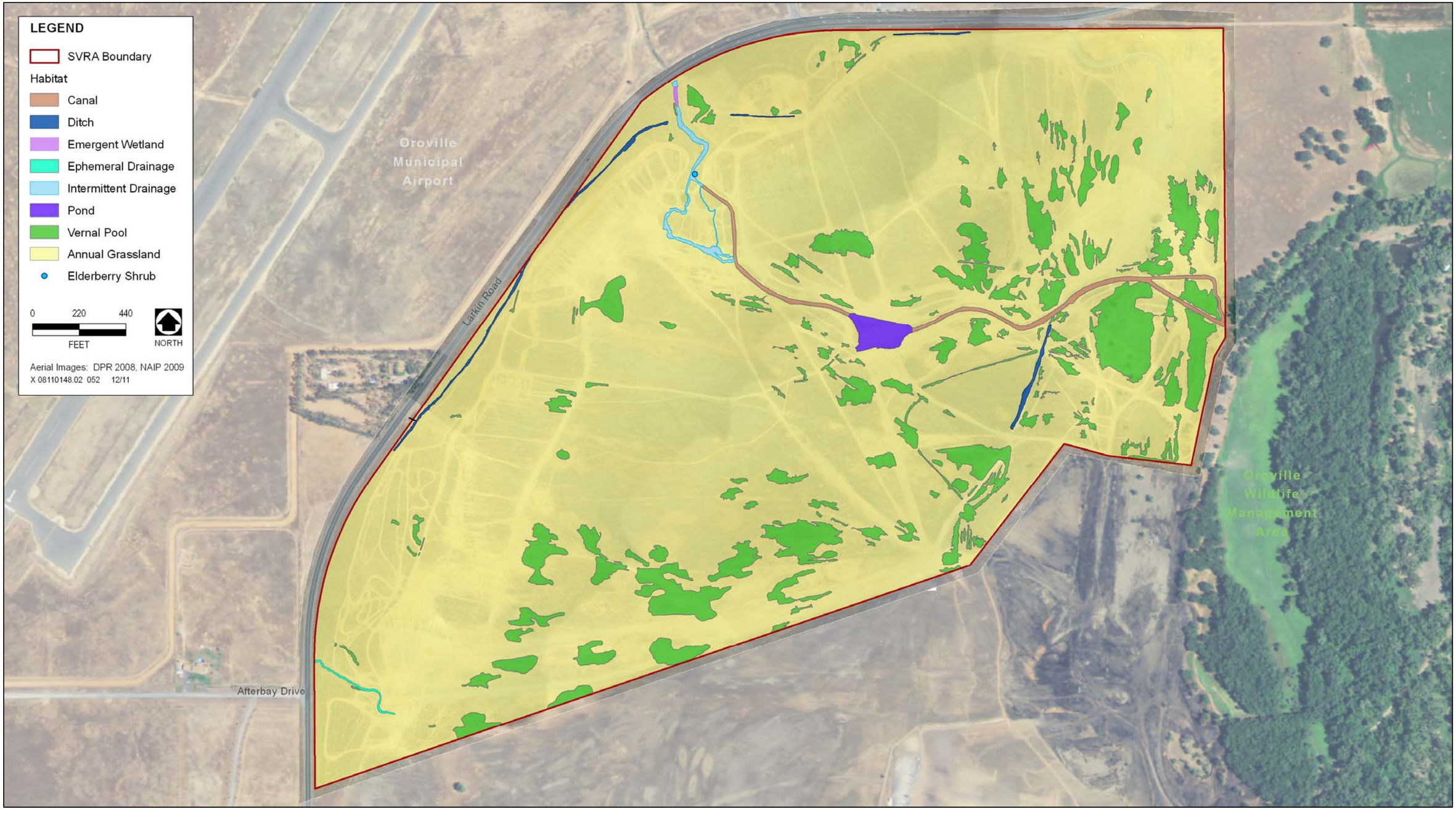
Because Clay Pit SVRA is owned and operated by the State of California, it is not subject to local policies or ordinances. Nonetheless, it is the intent of the OHMVR Division to develop Clay Pit SVRA in a manner compatible with the values expressed by the surrounding community; therefore, these policies and ordinances were considered as part of this environmental evaluation. Because the General Plan was developed to preserve biological resources on site, no conflict with local ordinances would result. This issue it not discussed further in this EIR.

A Butte County HCP/NCCP is under development, but has not yet been adopted, and the project site is outside the planning area of the planned Butte Regional HCP/NCCP; therefore, no conflicts would occur between the Clay Pit SVRA General Plan and any adopted HCP or NCCP. This issue is not discussed further in this DEIR.

3.5.4 Environmental Evaluation

Evaluation Methodology

This analysis of potential impacts on biological resources resulting from implementation of the General Plan is based on a review of documents containing information on existing biological resources on or near the project site, a reconnaissance-level wildlife survey, a reconnaissance-level survey for vernal pool brachiopod species, field work required to complete a wetland delineation report of the project site, a review of the California Natural Diversity Database (CNDDB) (CNDDB 2010), a review of the DFG Vegetation Classification and Mapping Program (DFG 2003), and a review of the California Native Plant Society's (CNPS's) (CNPS 2010) Inventory of Rare and Endangered Plants.



Source: TRA 2004, 2007, 2008, AECOM 2010, 2011, NAIP 2009, CDPR 2010

Vegetation Map **Figure 3.5-1**

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An AECOM biologist conducted a reconnaissance-level wildlife survey of Clay Pit SVRA on May 24, 2010. This survey consisted of walking meandering transects that included most of the major water features, trees, and typical remnant annual grasslands and degraded annual grasslands on the project site. The purpose of the survey was to characterize and record wildlife and wildlife habitat present at Clay Pit SVRA.

An AECOM biologist conducted a reconnaissance-level survey for vernal pool brachiopod species and habitat on March 10, 2010. Pools were checked for the presence of brachiopods and other common wetland invertebrates, and general habitat conditions and level of disturbance were recorded.

AECOM ecologists conducted a site visit on March 5, 2010, to verify and modify information gathered previously to document and map jurisdictional waters of the United States (U.S.), including wetlands, and other waters of the U.S. and state at the project site. All previously delineated features were evaluated in the field and revisions to the previously mapped wetland boundaries were made as needed. Following the site visit, AECOM biologists prepared an updated Preliminary Wetland Delineation report according to current USACE standards (AECOM 2010). The report was submitted to the USACE, and the USACE issued a verification letter in March 2011.

The CNDDB (CNDDB 2011) was reviewed for specific information on previously documented occurrences of special-status plant and animal species within a 5-mile radius of the project site (Figure 3.5-2). In addition, a list of terrestrial natural communities recognized by the CNDDB was reviewed to identify any sensitive vegetation communities that could occur at Clay Pit SVRA (DFG 2003).

The CNPS Inventory (CNPS 2010) was also reviewed for specific information on previously documented occurrences of special-status plant species in the Bangor, Biggs, Gridley, Honcut, Loma Rida, Oroville, Oroville Dam, Nelson, and Palermo U.S. Geological Survey 7.5-minute quadrangles. The CNDDB (2011) and CNPS (2010) searches identified special-status plant species that had previously been documented in the vicinity and, given the presence of suitable habitat, could occur at the SVRA in annual grassland, vernal pool habitat, wetlands and drainages.

Relevant documents that were reviewed during preparation of this analysis include:

- Draft Preliminary Delineation of Waters of the U.S., Including Wetlands. Clay Pit State Vehicular Recreation Area Project in Oroville, California (AECOM 2010);
- Special Status Shrimp Reconnaissance Surveys at Clay Pit OHV Park (EcoAnalysts 2010);
- Thermalito Afterbay SVRA Project Inventory of Features (State Parks 1978);
- a letter memorandum regarding sample and analysis of soil and water at Clay Pit SVRA (DWR 2005);

- Biological Opinion for the Oroville Facilities Relicensing Project (FERC File Number 2100), Butte County, California (USFWS 2002); and

- Clay Pit State Vehicular Recreation Area Sensitive Plant Species Survey (Martin 2005).

General Plan Impact Analysis

The basin at Clay Pit SVRA was excavated in the 1960s and the site has been used for OHV recreation since 1981. Though biological resources at the SVRA are disturbed relative to their condition prior to excavation and OHV use, an objective of the Clay Pit SVRA General Plan is to manage the SVRA to protect the natural resources that remain, in addition to providing quality OHV recreational experiences. To achieve this, Chapter 4 of the General Plan defines use areas, which allow construction of new facilities at the SVRA over time. These use areas were located in part based on the location of known sensitive resources, and proposed facilities have been placed in areas that will maximize quality OHV recreational experiences while minimizing impacts and conserving natural resources in the most sensitive areas. In addition, Natural Resource Management (NRM) Goals and Guidelines in Chapter 4 of the General Plan concerning vegetation, wildlife, and wetlands and other waters of the U.S. provide for the protection, conservation, and stewardship of biological resources within Clay Pit SVRA. In addition, a number of NRM guidelines aim to protect water quality at the site, including in the wetlands and vernal pools, which will benefit the wetlands and the habitat quality provided by these features.

IMPACT 3.5-1 Potential Loss of or Disturbance to Special-Status Plants

A protocol-level special-status plant survey of Clay Pit SVRA was conducted by a qualified botanist in 2005 and no special-status plants were found (Martin 2005). In addition, a search of the CNDDB and the CNPS Inventory of Rare and Endangered Plants revealed no sensitive plant species on-site (CNDDB 2011; CNPS 2010). While there is a CNDDB occurrence of Ahart's dwarf rush that overlaps with the boundary of the SVRA, the record is Accuracy Class 3, meaning it is a nonspecific bounded area; in other words, the boundaries of this record are not precise. As previously stated, surveys did not reveal any populations of special-status plants, including Ahart's dwarf rush (Martin 2005). Based on this information, no special-status plant species are known to occur within Clay Pit SVRA. Nevertheless, it is possible that special-status plants could establish within areas of the SVRA that provide suitable habitat. If special-status species were present on site, activities envisioned in the General Plan, such as the construction of facilities and the operation of OHVs, could cause a loss of or disturbance to special-status plants.

Source: CNDDB April 2011

CNDDB Occurrences within 5 Miles of the Project Site

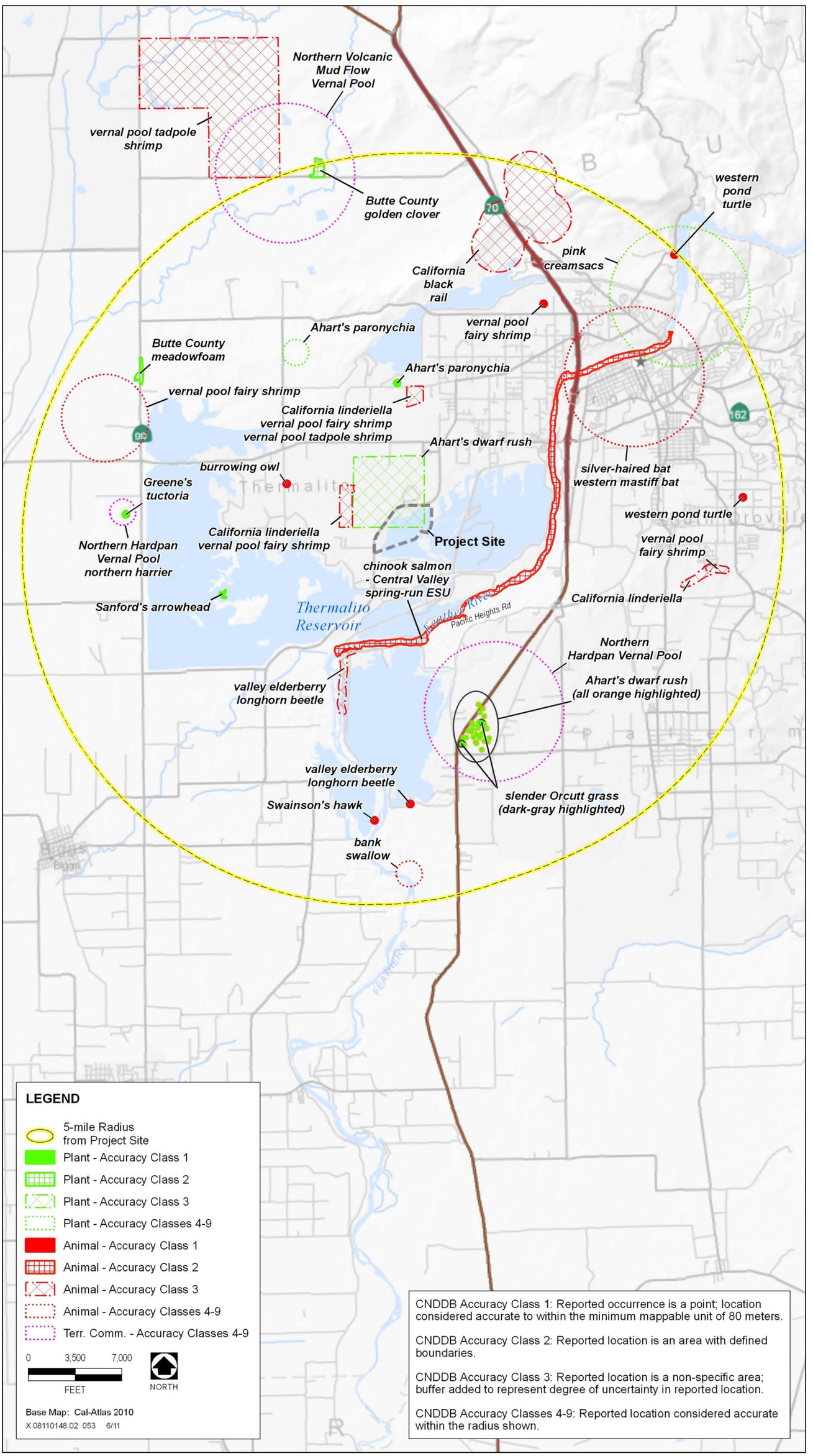

Figure 3.5-2

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The annual grassland and vernal pool habitat in the excavated basin of the SVRA is unlikely to support special-status plant species because of the degraded nature of this area. The remnant natural vernal pool grassland on the terrace along Larkin Road provides potential habitat for special-status vernal pool plants (i.e., Ahart's dwarf rush, Ahart's paronychia, Butte County golden clover, Butte County meadowfoam, Greene's tuctoria, and slender Orcutt grass). It is possible that seeds of special-status vernal pool plants from nearby source populations could drift onto the project site naturally (by wind or wildlife deposition) during the life of the General Plan, and these seeds could colonize vernal pools at Clay Pit SVRA. However, because of the continual disturbance by OHVs, it is unlikely that these species would establish self-sustaining populations. Suitable habitat for Sanford's arrowhead (CNPS List 1B.2) is present in the cattail vegetation community in wetlands and drainages at the SVRA. However, this species has not been observed during special-status plant surveys conducted at Clay Pit SVRA, and the closest known occurrence of Sanford's arrowhead is approximately 2 miles southwest of the SVRA (CNDDB 2011).

Implementation of Plants Goal 1 and associated guidelines in the General Plan would ensure that future development and improvements within Clay Pit SVRA would not result in significant adverse impacts on special-status plants. In particular, these measures stipulate that special-status plant surveys would be conducted in areas proposed for facility development prior to construction. If any special-status plant species were found, they would be mapped and avoided to the extent feasible. If avoidance were not possible, mitigation measures would be developed in coordination with DFG and/or USFWS, as appropriate, for any direct or indirect impacts that could occur as a result of actions envisioned in the General Plan. Mitigation measures could include preserving or enhancing populations on-site, transplanting plants, and/or restoring or creating suitable habitat off-site in sufficient quantities to achieve no net loss of occupied habitat or individuals.

The potential for loss or disturbance of special-status plants would be ***less than significant*** because (1) no known special-status plants are on the project site; (2) it is unlikely that special-status plants would establish self-sustaining populations on the project site; and, (3) the General Plan includes guidelines that would protect special-status plant species if they were found in areas that would be disturbed during site development envisioned in the General Plan.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-2 Potential Loss of or Substantial Disturbance to a Sensitive Vegetation Community

The vernal pools on the project site, both along the terrace and in the basin, are classified as vernal pools, which are designated by DFG as a "sensitive vegetation community," as described in Section 2.3.2, "Biotic Resources," of the General Plan. Other undisturbed, nearly pristine northern hardpan vernal pool habitat exists near Clay Pit SVRA and in the region. Although this type of vernal pool

community is considered sensitive, the vernal pool community at the project site has been subject to substantial disturbance (e.g., extensive soil excavation, OHV activity) and is therefore degraded from its natural condition (e.g. vegetation is very sparse). Because historic and continuing disturbance of this habitat has so substantially altered it, most changes proposed and envisioned in the General Plan (e.g. an increase in visitors and OHV use) would not cause a substantial increase in disturbance to the already-disturbed conditions of the site. (Refer to impact 3.5-3 below for a discussion of potential fill of vernal pools.) In fact, these changes would have the potential to improve the condition of the vernal pool vegetation communities by concentrating OHV activities in the developed use area of the SVRA which contains the least amount of this habitat. Because the northern hardpan vernal pool habitat on the project site is already degraded and because implementation of the General Plan, including construction and operation of the headquarters facilities, is not anticipated to cause a substantial change in the condition of this habitat, the potential for loss or disturbance of a sensitive vegetation community would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-3 Potential Fill of Waters of the U.S., Including Wetlands

Wetland delineations conducted in 2004, 2007, and 2010 identify approximately 26 acres of jurisdictional waters of the U.S. at Clay Pit SVRA (AECOM 2010). Wetlands within the project site boundaries include approximately 22.5 acres of vernal pools and 0.03 acre of emergent marsh, described as the cattail vegetation community in the General Plan. Approximately 3 acres of other waters of the U.S. consist of approximately 1.25 acres of canal, 0.5 acre of intermittent drainage channel, and a 0.75-acre pond. There are also 0.6 acre of ditch and 0.05 acre of ephemeral drainage. Characterization and acreage of all water features were confirmed during the USACE verification process for the wetland delineation, and a jurisdictional determination for the SVRA was obtained in March 2011; consequently, these features are considered waters of the U.S. subject to USACE jurisdiction under Section 404 of the CWA.

Implementation of the General Plan could cause direct and indirect impacts on these jurisdictional features. Land use areas in the General Plan are defined such that most facilities would be constructed in areas that do not contain jurisdictional wetlands and other waters of the U.S. In addition, Water Guideline 1.1 in the General Plan stipulates that these features be avoided to the extent feasible. However, the possibility remains that construction of facilities (such as water crossings or 4x4 facilities) and habitat enhancement activities (such as restoration of eroded features) could result in the fill of jurisdictional features. Implementation of Water Guideline 2.1, and Soils Guideline 1.3 in the General Plan would minimize potential impacts on waters of the U.S., including wetlands. In particular, if fill of these features were unavoidable, a CWA Section 404 permit would be obtained from USACE, CWA Section 401 certification would be obtained from the

Central Valley RWQCB, and a Section 1602 Streambed Alteration Agreement would be obtained from DFG, as appropriate. All conditions of these agreements would be implemented such that the acreage of all affected wetlands and other waters of the U.S. would be replaced, restored, or enhanced on a "no net loss" basis, in accordance with CWA Sections 404 and 401 requirements and the California Fish and Game Code. Wetland habitat would be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the Central Valley RWQCB, and/or DFG as appropriate and depending on agency jurisdiction.

Compliance with the guidelines in the General Plan would ensure that impacts resulting from future development and improvements at Clay Pit SVRA, such as the construction of water crossings, would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-4 Potential Loss of Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, or Their Habitat

Suitable habitat for two federally listed vernal pool branchiopod species is present in the vernal pools at Clay Pit SVRA. These species are vernal pool fairy shrimp and vernal pool tadpole shrimp. Only vernal pool fairy shrimp, a species federally listed as threatened, has been found within vernal pools at the SVRA during surveys conducted in 2007, 2008, and 2010 (EcoAnalysts 2010).

Vernal pool fairy shrimp at the SVRA are abundant and were observed in all pools sampled in 2010 and in many pools sampled in 2007 (EcoAnalysts 2010). Based on this survey data, vernal pool fairy shrimp are abundant despite disturbance from ongoing OHV activity. OHV activity at the SVRA consists of open terrain riding, enabling riders to cross all terrain present, including crossing vernal pools and other wetland features. Clay Pit SVRA closes during flood events or extremely wet conditions, subject to OHMVR District Superintendent's orders, but is generally open to the public for most of the year. No empirical information was found describing the effects of OHV use in vernal pool fairy shrimp habitat. However, OHV activity in occupied shrimp habitat at the SVRA could presumably damage or destroy individual shrimp or cysts (eggs); conversely, OHV activity may distribute individual shrimp or cysts, depositing them in pools across the SVRA, thus helping to perpetuating the population. Because vernal pool fairy shrimp have persisted or increased in abundance at the SVRA concurrent with on-going OHV use (EcoAnalysts 2010), continued or increased use of the site for open terrain riding by OHVs is not expected to result in a new significant impact to vernal pool fairy shrimp. In addition, Wildlife Guideline 1.3 requires that special-status shrimp species be monitored annually as part of the HMS to assess the effects of anticipated increases in OHV use. If long-term monitoring (i.e., more than 2 years in a row) documents a decline in shrimp populations relative to baseline information gathered before implementation of the General Plan, adaptive management strategies will be developed in coordination with USFWS to reverse the trend.

Facilities such as OHV tracks and roadways envisioned in the General Plan would be sited to avoid vernal pool habitat to the maximum extent possible, consistent with Water Guideline 1.1 in the General Plan. (See Impact 3.5-9 below for discussion of the headquarters facilities.) This site planning would minimize fill of vernal pool habitat from construction of these facilities. If fill were unavoidable, all affected wetlands and other waters of the U.S. would be replaced, restored, or enhanced on a "no net loss" basis, in accordance with CWA Sections 404 and 401 requirements, and the California Fish and Game Code, as described above in Impact 3.5-3 Potential Fill of Waters of the U.S., including Wetlands. However, such fill would also pose a potential risk for loss of special-status vernal pool shrimp species or their habitat. General Plan Wildlife Guideline 1.4 requires that if fill of such habitat were unavoidable, all affected habitat suitable for vernal pool fairy shrimp would be replaced, restored, or enhanced consistent with Water Guideline 1.2, and in accordance with Section 7 ESA requirements including consultation with the USFWS, so that all functions and values of the affected habitat would be replaced or enhanced. This may include the restoration or enhancement, and preservation of habitat on-site. Such habitat would be managed to maximize conditions favorable to shrimp occupancy. With implementation of Water Guideline 1.1 and Wildlife Guideline 1.4, potential impacts to special-status vernal pool shrimp and their habitat by direct fill would be less than significant.

In some cases, facilities proposed and envisioned in the General Plan could be constructed near existing vernal pools which could provide suitable habitat for vernal pool fairy shrimp and potentially for other listed vernal pool invertebrates. To avoid potential adverse impacts on water quality and associated indirect impacts to vernal pool fairy shrimp from the construction or operation of such facilities, water quality protection measures would be implemented. Numerous goals and guidelines in Chapter 4 of the General Plan provide specific guidance for the protection of water quality at Clay Pit SVRA (see Chapter 3.8 "Hydrology and Water Quality" for a detailed list of water quality protection goals and guidelines). In particular, Water Guideline 2.1 provides guidance for the protection of water quality during construction. With implementation of these goals and guidelines, potential indirect impacts on vernal pool fairy shrimp and their habitat as a result of water quality degradation would be less than significant.

In addition, the General Plan contains NRM Guidelines 1.4, 2.1 and 2.2, Soils Guideline 1.2, and Wildlife Guideline 1.3, which require annual monitoring of biological resources at the SVRA, require the use of adaptive management strategies to respond to monitoring results, and provide guidance for implementing adaptive management strategies should ongoing monitoring reveal that impacts to biological resources may be occurring.

Impacts on federally listed vernal pool fairy shrimp and other listed branchiopods and their habitat resulting from implementation of the General Plan would be ***less than significant*** because (1) vernal pool fairy shrimp populations have persisted at Clay Pit SVRA despite ongoing OHV use; (2) the General Plan contains goals and guidelines requiring that if habitat suitable for vernal pool fairy shrimp were filled, such habitat would be replaced, restored, or enhanced; (3) the General

Plan contains goals and guidelines for protecting water quality during construction and operation of the SVRA; and (4) the General Plan contains goals and guidelines for monitoring and adaptive management over the lifetime of the General Plan.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-5 Potential Loss of Valley Elderberry Longhorn Beetle

Marginally suitable habitat is present for valley elderberry longhorn beetle (VELB), a federally threatened species, in the isolated blue elderberry shrub that is fenced beside the arroyo willow habitat at Clay Pit SVRA (Figure 3.5-1). Because of the isolated nature of the shrub, it is not likely to be inhabited by VELB. The nearest known VELB occurrence is along the Feather River, 1.4 miles south of the SVRA (CNDDB 2010). Nevertheless, it is possible that this shrub could provide habitat for VELB, and activities envisioned in the General Plan, such as the construction of facilities, could cause destruction of or disturbance to this shrub or individual VELB.

Wildlife Guideline 1.1 of the General Plan includes provisions to protect this shrub and any VELB that it may contain. USFWS would be consulted to determine whether a protocol-level VELB survey is necessary prior to construction of nearby facilities. If USFWS determines that the elderberry shrub would be considered potential habitat, measures to avoid or mitigate any potential direct (removal of shrub) or indirect (encroachment on buffer around shrub) impacts would be identified and implemented according to the standard VELB conservation guidelines developed by USFWS (USFWS 1999) or alternate guidance received from USFWS. Examples of mitigation measures include transplantation of elderberry shrubs that cannot be avoided, planting of additional elderberry seedlings or cuttings and associated native vegetation, and restoration of damaged buffer areas with native vegetation (USFWS 1999). Implementing these guidelines would ensure that future development and improvements within Clay Pit SVRA would not result in significant adverse impacts on this potential VELB habitat or any VELB that it may contain.

Because the General Plan includes guidelines that would protect VELB and potential VELB habitat, the potential for loss or disturbance of this species or its habitat would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-6 Potential Loss of Special-Status and Nesting Migratory Bird Species

Tricolored blackbird, a California species of special concern, and Swainson's hawk, a California threatened species, were observed flying over Clay Pit SVRA during the wildlife survey conducted on June 22, 2010. No nests were found for either species on the project site, and no suitable nesting habitat exists for tricolored blackbird. However, the project site contains foraging habitat

and some low quality nesting habitat suitable for raptors and migratory birds. Superior foraging and nesting habitat for these species is present within the adjacent DFG Oroville Wildlife Management Area.

Existing OHV use on the project site has introduced loud noise and fast vehicles to the site, so any birds using the site for nesting or foraging would be acclimated to this type of activity. Nonetheless, construction of facilities proposed and envisioned in the General Plan, including construction and operation of the headquarters facilities, would introduce activities that could be temporarily disruptive to nesting special-status and migratory birds, causing them to abandon their nests.

Implementation of Wildlife Guideline 1.2 in the General Plan would ensure that future development and improvements within the SVRA would not result in significant adverse impacts on nesting special-status and migratory birds. If construction were to occur during the nesting season, preconstruction surveys would be conducted by a qualified biologist. If nesting special-status or migratory birds were found, measures to avoid or minimize disturbance would be developed in consultation with DFG. Such measures could include, among other things, delaying construction activities or creating a buffer or screening around the nest site.

Because it is unlikely that special-status or migratory birds would be found nesting on the project site, and because the General Plan includes guidelines that would protect nesting special-status and migratory birds, the potential for loss or disturbance of special-status and nesting migratory birds would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-7 Potential Disruption of a Migratory Wildlife Corridor

Wildlife corridors provide connections between two or more areas of habitat that would otherwise be isolated and unusable. Often drainages, creeks, or riparian areas are used by wildlife as movement corridors because these features can provide cover and access across a landscape. The drainage canal that traverses Clay Pit SVRA connects the northwest corner of the property to the DFG Oroville Wildlife Management Area, bordering the SVRA on the east, and could serve as a wildlife movement corridor. However, no activities proposed or envisioned in the General Plan would permanently interrupt movement through this area. The General Plan designates this drainage canal as part of the Drainage Management Area, and DMA Goals 1 and 2 and associated guidelines that would improve water quality and soils management in this use area could improve this feature as a movement corridor. In addition, Water Guideline 2.4 in the General Plan would restrict any temporary disturbance that could occur during construction of crossings and culverts

or during canal enhancement activities during the dry season, thus minimizing any temporary disturbances to wildlife movement.

Because the General Plan would not include any actions that would permanently disrupt this potential wildlife corridor, and because the General Plan includes guidelines that would minimize temporary impacts in this area, potential impacts on wildlife movement would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. The discussion of the potential loss of or disturbance to special-status plants (Impact 3.5-1) is also applicable to construction and operation of the headquarters facilities alone; therefore, no additional analysis related to the headquarters facilities is necessary. Likewise, the discussion of the potential loss of special-status and nesting migratory bird species (Impact 3.5-6) is applicable to the headquarters facilities alone and no additional analysis is necessary.

No migratory corridors are within the headquarters area; therefore, this issue is not discussed further.

The following analyses address potential impacts specific to the construction or operation of the headquarters facilities alone. These potential impacts are different from (e.g., less than) the potential impacts described above which could be caused by implementing the rest of the General Plan elements.

IMPACT 3.5-8 Potential Fill of Waters of the U.S., Including Wetlands, or Sensitive Vegetation Communities from Construction of the Headquarters Facilities

The headquarters facilities were designed and sited to avoid the fill of any waters of the U.S., including wetlands, or sensitive vernal pool habitat (see Figure 4.1 in the Clay Pit SVRA General Plan). Therefore, the project would cause ***no impact***.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-9 Potential Loss of Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, or Their Habitat from Construction of the Headquarters Facilities

Because construction of the headquarters facilities would not require the fill of any vernal pool habitat, the project would cause no direct loss of vernal pool shrimp or their habitat. The headquarters facilities would be constructed near existing vernal pools which could provide suitable habitat for vernal pool fairy shrimp and potentially for other listed vernal pool invertebrates. To avoid potential adverse impacts on water quality and associated indirect impacts to vernal pool fairy shrimp from the construction or operation of such facilities, water quality protection measures would be implemented. Numerous goals and guidelines in Chapter 4 of the General Plan provide specific guidance for the protection of water quality at Clay Pit SVRA. (See Chapter 3.8 "Hydrology and Water Quality" for a detailed list of water quality protection goals and guidelines). In particular, Water Guideline 2.1 provides guidance for the protection of water quality during construction. With implementation of these goals and guidelines, potential direct and indirect impacts on vernal pool fairy shrimp or their habitat associated with construction of the headquarters facilities would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.5-10 Potential Loss of or Disturbance to Valley Elderberry Longhorn Beetle from Construction of the Headquarters Facilities

The USFWS requires a 100-foot buffer around potential VELB habitat to avoid indirect impacts from construction activities. The lone elderberry shrub located at Clay Pit SVRA is located more than 100 feet away from the headquarters facilities, so construction of these facilities would not pose a risk of inadvertent disturbance to this habitat or any VELB that it may contain. Therefore, ***no impact*** on VELB would occur from construction of the headquarters facilities.

Mitigation Measures: No mitigation is required.

3.5.5 Summary of Significant Impacts

Adoption of the General Plan and implementation of resulting actions would not result in significant impacts on biological resources. Construction and operation of the headquarters facilities would not result in significant impacts on biological resources.

3.5.6 Mitigation Measures

No significant impacts on biological resources would result with implementation of the General Plan, including construction and operation of the headquarters facilities; therefore, no mitigation is required.

3.6 Cultural Resources

This section presents details about the existing setting and the regulatory setting for cultural resources. It also presents an analysis of the cultural resources impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities. This section is based on information presented in the cultural resources inventory report for Clay Pit SVRA (Perez and Long 2009).

3.6.1 Existing Setting

This section describes additional setting information to supplement the cultural setting information provided in Section 2.3.3, "Cultural Resources," of the Clay Pit SVRA General Plan. The General Plan states that because of the Central Valley's plentiful resources and temperate climate, the valley was well populated prehistorically and served as the location for some of the more substantial village sites known in California. Ethnographically, the Oroville area was inhabited primarily by the Maidu (also referred to as the Konkow or the Mechoopda near Clay Pit SVRA). General John Bidwell's 1848 discovery of gold on the Feather River in Hamilton, Butte County, occurred 4 months after James W. Marshall's discovery at Sutter's Mill. Present-day Oroville progressed from being one of the most dangerous and "wickedest" camps among the Feather River mines to becoming the county seat in 1856. Agriculture and the construction of the Oroville Dam in the latter decades of the 20th century had a more significant effect on the economy and landscape of the region than most other endeavors.

Previously Documented Cultural Resources

According to Northeast Information Center (NIC) records, no cultural resources investigations had been conducted within Clay Pit SVRA (prior to the inventory described below). In addition, no prehistoric sites, features, or artifacts have been documented in or within 1 mile of the project site. NIC records also show that no historic-era resources have been recorded within the SVRA. However, eight historic-era resources have been previously documented within 1 mile of the project site (Table 3.6-1).

Newly Documented Cultural Resources

A cultural resource inventory was completed for Clay Pit SVRA by OHVMR Division archaeologists (Perez and Long 2009). The survey of the project site resulted in identifying one historic-era site: a ditch complex (Primary number P-04-3142). This complex appears to be associated with the extensive gold-dredging operations that occurred in the area between 1898 and 1916, although it could be associated with construction of the clay pit itself. Such ditches are found throughout the gold-bearing regions of California and were used as part of elaborate systems for conveying water to placer diggings. However, this particular complex is not presently known to be directly associated with any specific significant mining operation. The integrity of the ditch complex was compromised by activities that took place during the construction of the Lake Oroville Dam, and

TABLE 3.6-1. PREVIOUSLY RECORDED HISTORIC RESOURCES WITHIN 1 MILE OF CLAY PIT SVRA

Resource #	Description
CA-BUT-465H	Oroville Feather River Dredge Fields
CA-BUT-1345H	Oroville Dredge Fields
CA-BUT-1894H	Western Canal (Feather River Canal Co.): Canal, pumping station, refuse deposits
CA-BUT-1895H	Homestead site
CA-BUT-1937H	Road segment
CA-BUT-2393H	Railroad grade
P-04-002680	Hamilton to Thompson Flat Road segment
P-04-002681	Structure flat, fruit trees

Source: Perez and Long 2009

the condition of the ditches is recorded as affected by modern-day activities. Although there are OHV crossings on the ditches, the ditches remain in fair condition and retain some historic integrity as interpretive elements of the landscape. The ditches lack a significant association, these types of ditches are ubiquitous, and the integrity of the ditches has been compromised. A Determination of Eligibility Statement was prepared for the State Historic Preservation Officer (SHPO) and submitted on June 16, 2010. SHPO concurred that this resource was not eligible as a historical resource defined by PRC 5020.1[j].

The archaeological survey also resulted in the documentation of three resources (a culvert concentration, a historic refuse pile, and a wire cable concentration) that are associated with the excavation of the basin for the construction of the Lake Oroville Dam. These artifacts date from 1964 and will not become potentially significant cultural resources until they are 50 years old (in 2014). This potential would occur within the lifetime of the General Plan so these potential resources were included in the June 16, 2010 Determination of Eligibility Statement for SHPO. It was decided by SHPO, that the 1964-era resources are not considered eligible as historical resources defined by PRC 5020.1[j].

3.6.2 Regulatory Setting

State and regional plans, policies, regulations, and laws related to cultural resources at Clay Pit SVRA are summarized below. Additional regulatory information related to cultural resources can be found in Section 2.7.3, “Regulatory Influences,” of the Clay Pit SVRA General Plan, including a summary of Section 106 of the National Historic Preservation Act, the California Register of Historical Resources, PRC Section 15064.5(e) of the State CEQA Guidelines, and PRC 5024.

California Public Resource Code

Several sections of the PRC are relevant to cultural resources investigations conducted within the state.

PRC 5024

PRC 5024 mandates that all state agencies make a good faith effort to protect and preserve all state-owned historical resources under its jurisdiction, and to submit to the State Historic Preservation Officer (SHPO) an inventory of all state-owned historical resources over 50 years of age under its jurisdiction. PRC 5024.5 states that SHPO has the authority to review all efforts made by state agencies to protect and preserve those resources from development and maintenance projects. SHPO has instituted a Memorandum of Understanding with the State Parks to do 5024 reviews of all projects that have the potential to adversely affect significant historical resources. Archaeologists from the OHMVR Division prepare a report of 5024 reviews for SHPO annually.

Following the completion of a cultural resources inventory, OHMVR Division archaeologists evaluate the significance of the resources and determine potential impacts to those resources resulting from proposed projects. A cultural resource is considered significant if it meets all of the following criteria:

- it meets one of the criteria lists for significance with regard to either the California Register of Historical Resources or the National Register of Historic Places,
- it is at least 50 years old, and
- it retains its integrity.

The 5024 review process insures that OHMVR Division projects follow the required standards in managing and protecting cultural resources. Those guidelines are the Secretary of the Interior's Standards for the Treatment of Historic Properties. The basic concepts that underlie all the treatments are:

- good documentation is essential to good management;
- repair and retain historic fabric instead of replacing;
- replace with only "like-kind" materials, styles, finishes, colors and craftsmanship;
- avoid the false historicity that is created by using features that are undocumented or period styles that never were there;
- make treatments reversible whenever possible; and
- protect archaeological resources.

To determine if a project will affect a significant cultural resource, an OHMVR Division project manager prepares a Project Evaluation Form which is submitted to OHMVR Division archaeologists for review. Division archaeologists consult the most recent cultural resource geodatabase and cultural resource inventory prepared for the subject SVRA. If a cultural resource has been recorded in the project area, then a 5024 report is prepared. The cultural resource is evaluated for significance according to NRHP/CRHR criteria. Impacts to the resource are assessed and mitigation measures are described in the 5024 report. If the archaeologists determine that a project would have an adverse impact to significant cultural resources, project managers direct staff to redesign the project to avoid those impacts.

PRC Section 5097

PRC Section 5097 addresses archaeological resources. Archaeological resources that are not "historical resources" may be "unique archaeological resources" as defined in PRC Section 21083.2, which also generally provides that "non-unique archaeological resources" do not receive any protection under CEQA. PRC Section 21083.2, subdivision (g), defines a "unique archaeological resource" as an archaeological artifact, object, or site that does not merely add to the current body of knowledge, but has a high probability of meeting any of the criteria identified in this section. If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on that resource will not be considered a significant effect on the environment.

PRC Section 5097.5 provides that any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public lands is a misdemeanor. As used in this section, "public lands" means lands owned by or under the jurisdiction of the state or any city, county, district, authority, or public corporation or any agency thereof.

PRC Sections 5097.9–5097.991 (California Native American Historic Resource Protection Act) establishes the Native American Heritage Commission (NAHC) and its responsibilities and requires cooperation of state and local agencies in carrying out its duties with respect to Native American resources. The NAHC identifies and catalogs places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands and performs other duties regarding the preservation and accessibility of sacred sites and burials and the disposition of Native American human remains and burial items. If human remains of Native American origin are discovered, the NAHC is responsible for identifying the person or persons it believes to be the most likely descendant from the deceased Native American. Section 5097.98: Prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and sets penalties for such acts.

California Health and Safety Code

The Clay Pit SVRA General Plan also is subject to several sections of the California Health and Safety Code pertaining to the discovery and treatment of human remains.

Section 7050.5

Section 7050.5 includes the following requirements:

- Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor.

- In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

- If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

Section 7051

Section 7051 states that any person who removes any part of any human remains from any place where it has been interred, or from any place where it is deposited while awaiting interment or cremation, with intent to sell it or to dissect it, without authority of law, or written permission of the person or persons having the right to control the remains under Section 7100, or with malice or wantonness, has committed a public offense that is punishable by imprisonment in the state prison. Similarly, Section 7052 notes that the willing mutilation, disinterment, and removal of remains known to be human from a place of interment are felony offenses.

Sections 8010–8011

Sections 8010–8011 of the California Health and Safety Code establish a state repatriation policy and facilitate implementation of the federal Native American Graves Protection and Repatriation Act. The policy requires that all California Indian human remains and cultural items be treated with dignity and respect and encourages voluntary disclosure and return of remains and cultural

items by publicly funded agencies and museums in California. The policy provides for mechanisms to aid California Indian tribes, including nonfederally recognized tribes, in filing repatriation claims and getting responses to those claims.

Native American Consultation

Government Code Section 65352.3 (Senate Bill 18) requires local governments to consult with California Native American tribes identified by the California NAHC before adopting or amending a general plan or specific plan. Senate Bill 18 requires that this consultation take place on a government-to-government level. State Parks issued Departmental Notice No 2007-05 in 2007. The notice sets forth State Parks' policy for consultation with Native California Indians regarding activities that affect matters relating to their heritage, sacred sites, and cultural traditions. General plans are included in the list of potential activities.

Consultation with the Native American community for Clay Pit SVRA was initiated by State Parks OHMVR Division with a letter to the NAHC requesting a search of the Sacred Land Files and a list of appropriate Native American tribal contacts for individual consultation. Contact letters were sent to the following organizations:

- Berry Creek Rancheria of Maidu Indians,
- Butte Tribal Council,
- Maidu Cultural and Development Group,
- Greenville Rancheria of Maidu Indians,
- Mechoopda Indian Tribe of Chico Rancheria,
- Enterprise Rancheria of Maidu Indians, and
- Mooretown Rancheria.

No written responses to the consultation letters were received by State Parks. Follow-up phone calls were also made, but no responses or concerns have been provided to State Parks regarding cultural resources situated within or near Clay Pit SVRA.

3.6.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to cultural resources if it would:

- cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines;

- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines;

- directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature; or

- disturb any human remains, including those interred outside of formal cemeteries.

Section 15064.5 of the State CEQA Guidelines defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings.

As cited in Section 15064.5, the lead agency shall consider a resource to be "historically significant" if the resource meets the CRHR criteria for eligibility or is listed in a local historic register or deemed significant in a historical resource survey. According to the CRHR criteria, a significant historical resource is one that meets one or more of the following:

a. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b. is associated with the lives of persons important in our past;

c. 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

d. has yielded, or may be likely to yield, information important in prehistory or history.

3.6.4 Environmental Evaluation

Evaluation Methodology

A complete cultural resource inventory was completed for Clay Pit SVRA by OHVMR Division archaeologists (Perez and Long 2009). This investigation included a record search conducted at the NIC of the California Historical Resources Information System located at California State University, Chico, and an archaeological survey of undisturbed portions of the SVRA. In addition, archaeologists contacted individual representatives and Native American tribal organizations that might have concerns with or an interest in implementation of the General Plan.

The OHMVR Division archaeologists conducted a pedestrian survey of portions of Clay Pit SVRA on October 28, 2008. This survey focused on segments of the project site's original surface elevation along the existing park boundary, near the fence line. The interior of the SVRA was not surveyed because it is highly likely the various mining and digging activities have since removed any existing resources.

General Plan Impact Analysis

IMPACT 3.6-1 Degradation of Cultural Resources

A Determination of Eligibility Statement was prepared for the State Historic Preservation Officer (SHPO) and submitted on June 16, 2010. This statement described cultural resources found on the SVRA and the condition of these resources. SHPO concurred that cultural resources found at the SVRA are not eligible as a historical resource defined by PRC 5020.1[j].

However, cultural resources could be discovered inadvertently during construction activities proposed and envisioned within the General Plan.

The OHMVR Division Cultural Resource Management Program promotes the protection, preservation, and interpretation of cultural resources throughout the OHMVR Division's park units. In addition, the Clay Pit SVRA General Plan includes specific goals and guidelines for the preservation, avoidance, and protection of cultural resources that may be present within Clay Pit SVRA. CR Guideline 1.1 requires that known resources be evaluated and protected according to PRC 5024 and OHMVR practice, while CR Guideline 1.2 does the same for any cultural resources that may be discovered in the future. CR Guideline 1.3 addresses the inadvertent discovery of human remains during projects proposed and envisioned under the Clay Pit SVRA General Plan.

Following PRC 5024 requirements, the OHMVR Division is mandated to conduct a full CRHR evaluation study of any cultural resource and obtain a DOE from the SHPO. Therefore, prior to the commencement of ground-disturbing activities in the vicinity of known resources, OHMVR Division Cultural Resource Management Program specialists will conduct an evaluation of the resource and obtain a DOE from the SHPO for listing the resource on the NRHP/CRHR. If the resource is determined to be eligible for NRHP/CRHR listing, an OHMVR Division archaeologist or other qualified cultural resource professional will develop and implement protection measures consistent with Section 106 of the National Historic Preservation Act, the Secretary of the Interior's Standards for the Treatment of Historic Properties, and CEQA. These measures could include, but would not necessarily be restricted to: project planning designed to avoid the resource, archival research, additional in-field documentation, or interpretive signage.

Oversight by the OHMVR Division Cultural Resource Management Program, and implementation of the goals and guidelines set forth within the Clay Pit SVRA General Plan would serve to protect known and yet-to-be discovered cultural resources at the SVRA through active stewardship, monitoring, and management. Required compliance with federal and state cultural resource regulations and management goals would also minimize the potential for substantial adverse effects on known or unknown prehistoric and historic resources present within the project site from future development and improvements within the SVRA. Therefore, potential impacts from implementation of the General Plan on cultural resources would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. No potential impacts associated with construction or operation of the headquarters facilities would be in addition to or otherwise different from the potential impacts described above; therefore, no additional analysis related to the headquarters facilities is necessary.

3.6.5 Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant impacts on cultural resources. Constructing and operating the headquarters facilities would not result in significant impacts on cultural resources.

3.6.6 Mitigation Measures

No significant impacts on cultural resources would result with implementation of the General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

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3.7 Geology and Soils

This section presents details about the existing setting and the regulatory setting for geology and soils. It also presents an analysis of the geology and soils impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.7.1 Existing Setting

This section describes additional setting information to supplement the geology and soils setting information provided in Section 2.3.1, "Physical Resources," of the General Plan. The General Plan describes the topography of the project site as characterized by a large basin and describes the disturbed clay and cobble soil characteristics.

Soils

The primary geotechnical constraint identified on the site is the presence of moderate to highly expansive near-surface clay soils (Geocon 2010; Appendix D of the General Plan). These types of soils can cause differential movement (shrinking or swelling) and damage to overlying structures. Percolation test results also indicate that soils on-site have very slow infiltration properties, which would affect the design of leach fields. Refer to General Plan Section 2.3.1, "Physical Resources," for additional details regarding soils.

Seismicity and Surface Rupture

The project site is not located near any known "active" earthquake fault trace, according to the California Geologic Survey (CGS 1997). The Alquist-Priolo Earthquake Fault Zone maps show that the only fault in Butte County considered active and within the fault zone is the Cleveland Hills fault. This fault is shown on the Bangor 7.5-minute quadrangle map (Gay 1977). The fault runs in a nearly north-south orientation directly south of Lake Oroville and approximately 5 miles east-southeast of Clay Pit SVRA. This fault last ruptured in 1975 (Butte County 2010:4.6-7).

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Butte County is considered to be within an area that is predicted to have a 10% probability that a seismic event would produce horizontal ground shaking at a level that correlates to a Modified Mercalli Intensity of V to VII, light to strong. As a result, the California Geological Survey has defined the entire county as a seismic hazard zone (Butte County 2010:4.6-9).

Liquefaction

Liquefaction is a process in which uniform, clean, loose, fine sandy, and silty sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction is restricted to certain geologic and hydrologic environments, primarily recently deposited sand and silt in areas with high groundwater levels. In Butte County, areas of

liquefiable soil can be found on the valley floor, especially near the Sacramento and Feather Rivers and minor tributaries, including tributaries that are no longer active (Butte County 2010a: 4.6-10). The site is approximately one mile from the Feather River, and is underlain by the Laguna Formation, a soil formation that generally consists of interbedded alluvial deposits comprising poorly graded gravel with silt, clay, sand and cobbles, silty gravel, and clayey gravel. Consistency and relative density of the Laguna Formation is generally stiff/dense to hard/very dense. Based on subsurface conditions at the site, liquefaction is expected to be low during seismic events (Geocon 2010; Appendix D of the General Plan).

Landslides

The topography of the area surrounding the project site is generally level, as is the natural terrace surrounding the excavated basin. The basin is approximately 30–40 feet below the surrounding grade, and is surrounded by gently inclined slopes. In the *Thermalito Afterbay ORV Project Inventory of Features* the staff geologist concluded that the borrow pit slopes are not very high or steep and noted no major landslide problems on the site (State Parks 1978:19).

3.7.2 Regulatory Setting

This section describes additional planning and regulatory information related to geology and soils to supplement information provided in Section 2.7, "Planning Influences," of the Clay Pit SVRA General Plan. In particular, Section 2.7.1, "Systemwide Planning," includes a summary of the *2008 Soil Conservation Standard and Guidelines*) (State Parks 2008). Other state and regional plans, policies, regulations, and laws related to geology and soils are summarized below.

Federal Plans, Policies, Regulations, and Laws

No federal plans, policies, regulations, or laws related to geology and soils are applicable to Clay Pit SVRA. However, while not a regulatory agency, the U.S. Natural Resources Conservation Service (NRCS) provides science-based soil information in the National Cooperative Soil Survey, a cooperative effort of federal and state agencies, universities, and professional societies. The NRCS is a division of the U.S. Department of Agriculture.

State Plans, Policies, Regulations, and Laws

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was passed by the California Legislature in 1972 to minimize the hazard of surface faulting to structures. The Alquist-Priolo Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. According to the act, local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in

a designated Alquist-Priolo Earthquake Fault Zone, the city or county with jurisdiction must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults (CGS 2007a).

Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) addresses seismic hazards other than surface fault rupture, such as liquefaction and seismically induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into project plans to reduce hazards associated with seismicity and unstable soils (CGS 2007b).

California Building Code

The State of California provides minimum standards for building design through the California Building Standards Code (CBC), contained in California Code of Regulations, Title 24, Part 2. The CBC incorporates, by reference, the national Uniform Building Code (UBC) with California-specific amendments, and applies to all occupancies throughout the state unless local amendments have been adopted. It includes regulations for seismic safety, excavation of foundations and retaining walls, and grading activities (including drainage and erosion control and construction on unstable soils) to ensure that structural designs are specific and responsive to site conditions.

California Water Code, Part 6, Chapter 4.5, Section 13290

Part 6, Chapter 4.5, of the California Water Code, requires owners and operators of new, rehabilitated, or leaking on-site sewage treatment systems to adopt minimum operating requirements related to siting, construction, and performance.

California Public Resource Code

The California PRC requires management and protection of soil resources specific to SVRA areas. Section 5090.35(a) states:

> The protection of public safety, the appropriate utilization of lands, and the conservation of land resources are of the highest priority in the management of the state vehicular recreation areas; and, accordingly, the division shall promptly repair and continuously maintain areas and trails, anticipate and prevent accelerated and unnatural erosion, and restore lands damaged by erosion to the extent possible.

2008 Soil Conservation Standard and Guidelines

The *2008 Soil Conservation Standard and Guidelines* (State Parks 2008) require that the OHMVR Division manage OHV recreation facilities to meet the following soil standard:

> Off-highway vehicle (OHV) recreation facilities shall be managed for sustainable long-term prescribed use without generating soil loss that exceeds restorability, and without causing erosion or sedimentation which significantly affects resource values beyond the facilities. Management of OHV facilities shall occur in accordance with Public Resources Code, Sections 5090.2, 5090.35, and 5090.53.

The *2008 Soil Conservation Standard and Guidelines* provide tools and techniques that may be used to meet the 2008 Standard. Other tools and techniques that are more applicable to specific facility conditions and organizational protocols also may be used as appropriate to comply with the soil standard.

OHV BMP Manual for Erosion and Sediment Control

The *OHV BMP Manual for Erosion and Sediment Control* (OHV BMP Manual) (State Parks 2007) provides guidance on selecting, implementing, and maintaining BMPs for OHV-type facilities and construction activities. BMPs detailed in the manual include BMPs for erosion control (e.g., blankets, mulches, hydroseeding techniques), scour control (e.g., check dams and armoring as in upland swales and ditches), dust control, sediment traps, and waste management.

Regional and Local Plans, Policies, Regulations, and Ordinances

Because Clay Pit SVRA is owned by the State of California, it is not subject to compliance with Butte County policies or ordinances. However, it is the intent of the OHMVR Division to develop Clay Pit SVRA in a manner compatible with planning values expressed by the surrounding community; therefore, these policies and ordinances were considered as part of this environmental evaluation. The *Butte County General Plan 2030* Health and Safety Element addresses seismic and geologic hazards. Goals and policies of the general plan are focused on reducing risk from earthquakes, compliance with the Alquist-Priolo Act, reducing risks from steep slopes, landslides, erosion, and expansive soils (Goals HS-6 through HS-9) (Butte County 2010a:298–299).

Butte County regulates septic systems that serve the needs of an individual user (e.g., single residence, office building). Butte County's on-site wastewater ordinance (Chapter 19 of the Butte County Municipal Code) regulates and establishes standards for design, construction, installation, operation, maintenance, monitoring, replacement, alteration, enlargement, repair, and abandonment of on-site wastewater treatment, conveyance, and dispersal systems. The ordinance also ensures compliance with applicable standards, laws, and guidelines as adopted, and/or modified by the State Water Resources Control Board (SWRCB) or the Central Valley RWQCB. The ordinance requires a site evaluation as part of obtaining an On-Site Wastewater System Construction Permit and examines factors affecting on-site wastewater system design including, but not limited to, ground slope, soil textural characteristics, effective soil depth, horizontal setbacks, and available area for 100% system replacement (Butte County Municipal Code, Chapter

19, On-Site Wastewater Systems). Because no state-wide septic regulations apply, the OHMVR Division will comply with the local Butte County on-site wastewater ordinance for planning purposes at Clay Pit SVRA.

3.7.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to geology and soils if it would:

- expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the following:
  - rupture of known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map used by the State Geologist for the area or based on other substantial evidence of a known fault;
  - strong seismic ground shaking;
  - seismic-related ground failure, including liquefaction; or
  - 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 landslides, lateral spreading, subsidence, liquefaction or collapse;
- be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property; or
- have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

3.7.4 Environmental Evaluation

Evaluation Methodology

This section addresses issues related to geologic hazards, specifically seismicity and soil erosion. Effects associated with geology and soils that could result from project-related activities were evaluated based on expected construction practices, materials used to construct the proposed improvements, and the nature of the proposed activities on the site. Alquist-Priolo Earthquake

Fault Zone maps provided by the CGS were consulted to determine the proximity of Clay Pit SVRA to active earthquake faults, and *Geotechnical Investigation, Clay Pit SVRA, Oroville, Butte County, California* (geotechnical investigation) (Geocon 2010; Appendix D of the General Plan) provided the basis for analysis of geology and soils impacts.

General Plan Impact Analysis

IMPACT 3.7-1 Risk Related to Geologic Instability, Including Liquefaction, Subsidence, or Collapse

All regulatory requirements related to geologic stability and safety, such as those contained in the CBC, would be adhered to when designing and constructing Clay Pit SVRA facilities. No major excavation is anticipated for implementation of the General Plan. Minor excavation and trenching for utilities or concrete foundations for structures within the SVRA would be required, but would not be substantial or create geologic instability.

The site is approximately 1 mile from the Feather River and is underlain by the Laguna Formation, a soil formation that generally consists of interbedded alluvial deposits comprising poorly graded gravel with silt, clay, sand and cobbles, silty gravel, and clayey gravel. Consistency and relative density of the Laguna Formation is generally stiff/dense to hard/very dense. Based on subsurface conditions at the site, liquefaction is expected to be low during seismic events (Geocon 2010:2, 5; Appendix D of the General Plan).

The *Thermalito Afterbay ORV Project Inventory of Features* (State Parks 1978) concluded that the borrow pit presents no landslide danger to people or structures because the slopes are not very high or steep, and the staff geologist noted no major landslide problems on the site.

Because all regulatory requirements related to geologic stability and safety would be adhered to, construction activities would not induce geologic instability, and the site contains stable soils, potential impacts related to geologic instability would be a ***less than significant.***

Mitigation Measures: No mitigation is required.

IMPACT 3.7-2 Risks to People and Structures Caused by Strong Seismic Ground Shaking and Surface Fault Rupture

The project site is not located within a known active fault trace or within an earthquake fault zone, as delineated on the Alquist-Priolo Earthquake Fault Zone maps. Therefore, the potential for ground rupture resulting from on-site active faulting is considered low (Geocon 2010; Appendix D of the General Plan). In addition, the facilities proposed in the Clay Pit SVRA General Plan would be

constructed in compliance with CBC (Title 24), which addresses seismic safety in construction. Therefore, impacts related to ground shaking and surface rupture would be ***less than significant.***

Mitigation Measures: No mitigation is required.

IMPACT 3.7-3 Soil Erosion or the Loss of Topsoil

At Clay Pit SVRA, erosion can occur from wind and periods of intense rainfall, especially in areas that have been disturbed. The potential for erosion generally increases as a result of human activity, primarily through development of structures and impervious surfaces and the removal of vegetative cover. Some erosion has occurred on-site in areas where the soil layer has been disturbed by OHV use. Continued and increased use of OHVs, as envisioned in the General Plan, has the potential to continue to cause soil erosion. The NRCS provides ratings that indicate the risk of soil loss from off-road and off-trail areas after disturbance activities that expose the soil's surface. The soils located on the perimeter of the basin are described as "limited" for crops and other uses because of ponding, indicating that soils are poorly drained. The soils within the basin are not rated.

Construction and operation of facilities envisioned in the General Plan, including construction and operation of the headquarters facilities, would result in soil disturbance, the removal of vegetation, and the creation of impervious surfaces that could increase the potential for erosion. However, Soils Goal 1 and accompanying guidelines in the Clay Pit SVRA General Plan require the use of practices which would minimize the potential for erosion and erosion-related hazards, including compliance with the *2008 Soil Conservation Standard and Guidelines* described in Section 3.7.2, "Regulatory Setting," above. Soils Guideline 1.3 in the General Plan requires that erosion-control measures, including those designed for stock piles, be implemented during the construction and operation of activities or facilities. Consistency with the OHV BMP Manual (State Parks 2007) also would be required. Refer to section 3.8 "Hydrology and Water Quality" for additional discussion of the potential for soil erosion and resulting water quality degradation.

As outlined above, multiple standards and guidelines related to minimizing erosion potential must be met when implementing actions proposed under the General Plan. With adherence to these guidelines and requirements, significant erosion impacts would be avoided or minimized, and this impact would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.7-4 Risk of Damage to Structures and Infrastructure from Expansive Soils

The presence of moderate to highly expansive clay soils near the surface is the primary geotechnical constraint at the project site (Geocon 2010; Appendix D of the General Plan). These

types of soils can cause differential movement (shrinking or swelling) and damage to overlying structures. However, Soils Guideline 1.4 in the General Plan requires that recommendations contained in the geotechnical investigation addressing site grading, foundations, and other surface improvements be followed when facilities are constructed, including the headquarters facilities, to minimize or eliminate risks associated with expansive soils. In addition, development of facilities envisioned in the General Plan would adhere to all regulatory requirements, such as the CBC, related to soil safety.

Because construction of facilities would include implementation of measures that would minimize or eliminate risks associated with expansive soils, this impact would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.7-5 Wastewater Disposal Incompatibility with Impervious Soils at the SVRA Visitor Facilities

Percolation test results indicate that soils on-site generally have very slow infiltration properties, which could make them incompatible with the use of typical septic systems. However, under the General Plan, sanitary facilities constructed for visitors would consist of vault toilets, which would not require on-site septic disposal. (See Impact 3.9-6 below for discussion of wastewater disposal at the headquarters facilities.) Therefore, this impact would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. The discussions of risk from geologic instability (Impact 3.7-1), seismic ground shaking (Impact 3.7-2), erosion (Impact 3.7-3), and expansive soils (Impact 3.7-4) related to the construction and operation of facilities envisioned in the General Plan are also applicable to construction and operation of the headquarters facilities alone; therefore, no additional analysis related to the headquarters facilities is necessary.

The following analysis addresses a potential impact specific to the operation of the headquarters facilities alone. Wastewater disposal would be handled differently at the headquarters facilities than in the rest of the SVRA; a septic system would be used for the headquarters facilities while vault toilets would be used throughout the rest of the SVRA.

IMPACT 3.7-6 Wastewater Disposal Incompatibility with Impervious Soils at the Headquarters Facilities

As noted under "General Plan Impact Analysis" above, percolation test results indicate that soils on-site generally have very slow infiltration properties, which would make them incompatible with a standard gravity-fed septic system. Therefore, the septic system that would serve the sanitary facilities proposed at the headquarters facilities would require special engineering (e.g., an aboveground leach field). Soils Guideline 1.6 and DU Guideline 3.1 require that development of facilities comply with all regulatory requirements related to soil safety. Accordingly, an on-site wastewater site evaluation would be conducted to determine the appropriate system design for wastewater disposal on the site, and a compatible system would be constructed on-site. Implementation of this guideline would result in ***less-than-significant*** impacts.

Mitigation Measures: No mitigation is required.

3.7.5 Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant impacts on geology and soils resources. Constructing and operating the headquarters facilities would not result in significant impacts on geology and soils resources.

3.7.6 Mitigation Measures

No significant impacts on geology and soils resources would result with implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

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3.8 Hydrology and Water Quality

This section presents details about the existing setting and the regulatory for hydrology and water quality. It also presents an analysis of the hydrology and water quality impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.8.1 Existing Setting

This section includes additional setting information to supplement the hydrology and water quality setting information provided in Section 2.3.1, "Physical Resources," of the Clay Pit SVRA General Plan. The General Plan describes the surface water resources near and on Clay Pit SVRA, including a description of culverts and surface flows that drain into the SVRA, a drainage canal that runs through the SVRA to an outlet at its eastern boundary, a series of ditches and gullies that drain surface flows into the main drainage canal, and the outlet of all drainage into a remnant oxbow of the Feather River. The General Plan also describes surface water management in the area, groundwater resources and their management, water supply and demand, and surface water quality. General Plan Section 2.3.2, "Biotic Resources," and Section 3.5, "Biological Resources" in this DEIR contain additional details regarding wetlands and vernal pools on the project site.

3.8.2 Regulatory Setting

Section 2.7, "Planning Influences," of the Clay Pit SVRA General Plan summarizes the planning and regulatory information related to hydrology and water quality at the SVRA. Specifically, Section 2.7.1, "Systemwide Planning," includes a summary of the *2008 Soil Conservation Standard and Guidelines* (State Parks 2008) and the OHV BMP Manual (State Parks 2007). Section 2.7.3, "Regulatory Influences," includes a summary of Sections 401 and 404 of the CWA, California Fish and Game Code 1602, and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Federal Plans, Policies, Regulations, and Laws

Federal Clean Water Act of 1972

In 1972, the Federal Water Pollution Control Act (later referred to as the Clean Water Act [CWA]) was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to waters of the U.S. from any point source. In 1987, the CWA was amended to require that EPA establish regulations for permitting of municipal and industrial storm water discharges under the NPDES permit program. EPA published final regulations regarding storm water discharges on November 16, 1990. At that time, NPDES regulation was promulgated to the SWRCB. The regulations require that discharges to surface waters from municipal separate storm [water] sewer system (MS4) be regulated by a NPDES permit. Permitting occurred in two phases: Phase I covered operators of medium and large MS4s, that is, those that generally serve populations of 100,000 or greater; the Phase II Final Rule, published in

the Federal Register on December 8, 1999, required NPDES permit coverage for storm water discharges from municipalities not previously covered under Phase I. The following CWA sections are most relevant to this analysis:

- Section 401 of the CWA requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of the CWA. The SWRCB administers the certification program through its nine RWQCBs.

- Section 404 of the CWA established a program to regulate the discharge of dredged or fill materials into waters of the U.S., including wetlands. This program is administered by USACE.

- Section 303(d) of the CWA requires states to develop a list of water bodies that are considered to be "impaired" from a water quality standpoint, as described below.

Clean Water Act Section 303(d) List of Water Quality Limited Waterways

Under Section 303(d) of the CWA, each state is required to develop a list of surface water bodies that are impaired for water quality. The waters on the list are designated as not meeting water quality standards, even after water pollution control measures have been implemented at pollution point sources. The law requires that waters on the list be ranked for the development of action plans, including total maximum daily load (TMDL) pollution thresholds, to improve the water quality (SWRCB 2007). TMDLs are a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

The Lower Feather River (Lake Oroville Dam to Confluence with Sacramento River) is listed as impaired in the final 2008 California 305(b)/303(d) integrated report list for chlorpyrifos, Group A pesticides, mercury, polychlorinated biphenyls (PCBs), and unknown toxicity (SWRCB 2009). The current TMDLs for the Marysville hydrological unit are:

- Chlorpyrifos: 0.025 micrograms per liter (µg/l); 1-hour average (acute) 0.015 µg/l; 4-day average (chronic)

- Diazinon: 0.16 µg/l; 1-hour average (acute) 0.10 µg/l; 4-day average (chronic)

These pesticide objectives are not to be exceeded more than once in a 3-year period (State Parks 2011; SWRCB 2008). TMDLs for all other listed pollutants are proposed to be completed between 2011 and 2021.

State Plans, Policies, Regulations, and Laws

OHV BMP Manual for Erosion and Sediment Control

The OHV BMP Manual was prepared for the OHMVR Division to provide guidelines for selecting and implementing BMPs to prevent impacts to water quality from OHV trail construction projects; the construction and maintenance of low-volume access roads; the creation of new buildings, campgrounds, and other visitor facilities; special OHV events; and routine park maintenance. The OHV BMP Manual was compiled for specific use by SVRAs, but also provides BMP selection and design guidance useful statewide.

The OHV BMP Manual provides methods to minimize the impacts of erosion and sedimentation on water quality, including guidance for selecting appropriate BMPs for storm water pollution prevention plans (SWPPPs) required by the NPDES permit for construction activity. There is also guidance on designing and building trails and roadways in a manner that will minimize watershed and water-quality impacts.

To comply with existing water-quality and erosion-control regulations, goals outlined in the OHV BMP Manual are as follows (State Parks 2007):

1. Minimize soil erosion and compaction of soils resulting in loss of soil productivity and sedimentation to waterways.

2. Minimize disturbance and sedimentation to riparian areas, wetlands, and waterways adversely impacting amphibians and wildlife.

3. Minimize spread of invasive, nonnative, and noxious weeds along travel routes, and minimize disturbance to botanical resources.

4. Prevent the creation of additional routes in Environmentally Sensitive Areas.

Statewide General NPDES Permit for Construction Activity

The State of California adopted a new Construction General Permit on September 2, 2009, and enforcement began on July 1, 2010. SWRCB Water Quality Order 2009-0009-DWQ (Construction General Permit) regulates construction site storm water management. Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the Construction General Permit for discharges of storm water associated with construction activity. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

Permit applicants are required to submit a notice of intent to SWRCB and to prepare a SWPPP. The SWPPP identifies BMPs that must be implemented to reduce construction effects on receiving water quality based on pollutants anticipated at the construction site. The BMPs identified are directed at implementing both sediment- and erosion-control measures and other measures to control potential chemical contaminants. The SWPPP also includes descriptions of postconstruction BMPs intended to reduce pollutants in storm water discharges after all construction phases have been completed.

Central Valley Basin Plan

Section 13240 of the Porter-Cologne Act requires each RWQCB to formulate and adopt water quality control plans, or basin plans, for all areas within the region. The Basin Plan for the Central Valley Basin (Central Valley RWQCB Region 5), revised September 2009, establishes water-quality objectives for constituents that could potentially cause an adverse effect or impact on the beneficial uses of water (Central Valley RWQCB 2009). Specifically, the Central Valley Basin Plan is designed to accomplish the following:

(1) designate beneficial uses for surface and ground waters;

(2) set the narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to California's anti-degradation policy;

(3) describe implementation programs to protect the beneficial uses of all water in the region; and

(4) describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.

The Central Valley Basin Plan incorporates by reference all applicable SWRCB and RWQCB plans and policies.

3.8.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to hydrology and water quality if it would:

- violate any water quality standards or waste discharge requirements;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop

to a level which would not support existing land uses or planned uses for which permits have been granted);

- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- otherwise substantially degrade water quality;
- place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- place within a 100-year flood hazard area structures which would impede or redirect flood flows; or
- expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or by seiche, tsunami, or mudflow.

Because Clay Pit SVRA contains very impervious soils, it does not allow a substantial amount of infiltration for groundwater recharge. This issue is not discussed further in this DEIR.

Because no storm drain systems exist at the SVRA, implementation of the General Plan would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems. This issue is not discussed further in this DEIR.

Because implementation of the General Plan would not involve the construction of housing, it would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. This issue is not discussed further in this DEIR.

Although portions of Clay Pit SVRA are located within a 100-year flood hazard area, construction of facilities envisioned and proposed in the General Plan would not obstruct flood flows that already exist and are anticipated to continue across the project site. This issue is not discussed further in this DEIR.

Because existing flood patterns are anticipated in the planning and design of facilities proposed and envisioned in the General Plan, and because flooding as a result of the failure of a levee or dam, or by seiche, tsunami, or mudflow is not anticipated, implementing the Clay Pit SVRA General Plan would not expose people or structures to a significant risk of loss, injury or death involving flooding. This issue is not discussed further in this DEIR.

3.8.4 Environmental Evaluation

Evaluation Methodology

This analysis of potential impacts on hydrology and water quality resources resulting from implementation of the Clay Pit SVRA General Plan is based on a review of documents containing information on existing hydrology, water supply, and water quality resources on or near the project site. Information sources include publically available reports and documents, state water resource and ecosystem online databases, resource-specific reports and databases, and a Ph.D. dissertation. The analysis also included review of documentation regarding reconnaissance-level survey for vernal pools and review of wetland delineation documentation at the project site. Standards and guidelines for soil conservation and best management practices for erosion and sediment control were also reviewed.

Relevant documents that were reviewed during preparation of this analysis include:

- California 303(d) list of water quality limited segments, Category 5, 2008 (SWRCB 2009);
- California State Water Project – Oroville Complex – Thermalito Facilities (DWR 2010);
- "Characterization of Heavy Metal Particles Embedded in Tire Dust" (Adachi and Tainosho 2004);
- Clay Pit SVRA Watershed Analysis and Action Plan (State Parks 2011);
- Draft Preliminary Delineation of Waters of the U.S., Including Wetlands. Clay Pit State Vehicular Recreation Area Project in Oroville, California (AECOM 2010);
- Basin Management Objective, Butte County, Sub-Inventory Unit, Thermalito (BMO 2010);
- Butte County Groundwater Management Plan, Thermalito Sub-Area (Butte County 2005);
- Butte County Operational Plan 2009–2010 (Butte County 2010);
- Explorer - Online encyclopedia of plants, animals, and ecosystems of the U.S. and Canada (NatureServe 2010);
- Geotechnical Investigation, Clay Pit SVRA, Oroville, Butte County, California (Geocon 2010);

- Impact of Turfgrass Systems on the Nutrient Status of Surface Water, and Ground Water (Zwierschke 2009);
- Lower Feather Watershed – 18020106, Lower Feather Watershed Profile (EPA 2011);
- OHV BMP Manual for Erosion and Sediment Control (State Parks 2007);
- Oroville Reservoir and Thermalito Facilities, Northern California Water Association (NCWA 2010);
- Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments, Central Valley Regional Board (SWRCB 2007);
- Resolution No. 2008-0013, Sacramento and Feather River Diazinon and Chlorpyrifos TMDL (SWRCB 2008);
- 2008 Soil Conservation Standard and Guidelines (State Parks 2008);
- Special Status Shrimp Reconnaissance Surveys at Clay Pit OHV Park (EcoAnalysts 2010);
- The Lower Feather River HUC/Honcut Creek Watershed Existing Conditions Assessment, Sutter County Resource Conservation District (Foothill Associates 2010);
- The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board – Central Valley Region, fourth edition, revised September 2009 (Central Valley RWQCB 2009);
- University of California Santa Barbara Biogeography Lab Website (2011); and
- Watershed Browser (CDC 2010).

General Plan Impact Analysis

IMPACT 3.8-1 Changes in Drainage Patterns or Amount of Surface Runoff That Could Result in Flooding or Erosion and Sedimentation

Constructing the facilities envisioned and proposed in the Clay Pit SVRA General Plan, including the headquarters facilities, would provide or upgrade park facilities related to administration, maintenance operations, and recreation opportunities.

New development often increases the amount of impervious surfaces across a project site. Because impervious surfaces preclude the infiltration of water into the ground, they often increase

the amount of runoff across a project site. An increase in runoff can pose risks associated with flooding, and erosion and sedimentation.

New development also often requires changing drainage patterns across a project site to accommodate new facilities. Changing drainage patterns can change the rate or amount of surface runoff, which can also pose risks associated with flooding, erosion and sedimentation.

Some of the improvements proposed and envisioned in the General Plan, such as the headquarters building, roads, and parking areas, would result in an increase in impervious surfaces (e.g., rooftops, pavement). Others, such as the maintenance yard, unpaved staging areas, and OHV tracks, would be covered with road base and other somewhat pervious surfaces, and would not be expected to substantially change the permeability of these surfaces. Because the size of new impervious surfaces would be small in comparison to the 220-acre project site (Figure 2-3), the relative increase in impervious surfaces would be minimal. In addition, the soil at the Clay Pit SVRA site has a high clay content and is already very impermeable, so the addition of impervious surfaces would have little effect on water infiltration and surface runoff. Implementing the General Plan would result in a very limited increase in impervious surfaces and associated increased runoff.

Many of the improvements proposed and envisioned in the General Plan, such as the headquarters building, roads, parking areas, and OHV tracks may require small alterations in local surface water drainage patterns as flows are directed around these facilities. However, ultimately these flows would flow to the main drainage canal that runs through the project site, consistent with existing drainage patterns. Therefore, these small changes in drainage patterns would have a negligible effect on the flooding characteristics of the site. In addition, the General Plan calls for the construction of sediment traps and basins to accompany the envisioned recreation facilities (e.g., OHV tracks). These facilities would treat surface flows that may contain sediment and other pollutants onsite. Because the project site does not currently contain any facilities to prevent erosion and sedimentation, the addition of these treatment facilities is expected to improve erosion and sedimentation conditions over existing conditions.

According to Clay Pit SVRA General Plan Soil Guidelines 1.1, 1.2, and 1.3 all facility improvements would comply with the *2008 Soil Conservation Standard and Guidelines*, and the OHV BMP Manual. Furthermore, consistent with Water Guidelines 2.1 and 2.2, operation-related (post construction) BMPs such as vegetated swales and infiltration basins or trenches would also be implemented where appropriate. These efforts would further mitigate increases in the rate or amount of runoff and the resulting potential for erosion and sedimentation.

Because the amount of new impervious surface created would be relatively small, because the majority of the site already exhibits a restrictive soil layer, and because appropriate water quality regulations and BMPs would be followed, potential flooding and erosion impacts related to

drainage patterns and runoff associated with implementation of the General Plan, including constructing and operating the headquarters facilities, would be ***less than significant.***

Mitigation Measures: No mitigation is required.

IMPACT 3.8-2 Reduced Surface Water Quality Caused by Erosion, Sedimentation, and Polluted Runoff

The potential for erosion generally increases as a result of human activity, primarily through developing structures and other impervious surfaces and removing vegetative cover. Erosion may also occur where unprotected surfaces are exposed to regular or continual disturbance. The degree of erosion these activities cause often depends on the frequency of disturbance, soil conditions, and climate. The geology and soils sections of this DEIR and the Clay Pit SVRA General Plan include discussions of the potential for the native soils at the SVRA to erode.

Implementation of the General Plan would have a potential to cause an increase in erosion and sedimentation affecting surface water quality as a result of construction activities and increased vehicular traffic. During construction, grading activities required for elements such as building pads, roads, staging areas, and tracks would change ground surface contours and drainage patterns, and loosen surface soils, making them more susceptible to erosion. The mechanical energy of vehicle tires turning on soil also loosens surface soils, making them more susceptible to erosion by wind and water. Vehicle tires can also remove vegetative cover thus decreasing the vegetation's function in helping to stabilize soils. An increase in OHV activity at the SVRA would increase this potential for erosion.

At Clay Pit SVRA, sheet flow and/or concentrated flows of water can pick up eroded soils and transport suspended sediments through the SVRA. Vehicle use creates depressions in the basin, and runoff flows into these depressions, creating drainage connections between vernal pools and gullies throughout the SVRA. Eventually, water drains to the main drainage canal and then off-site to the abandoned oxbow of the Feather River along the eastern property boundary. The transport and deposition of such sediments can decrease water quality within the various drainages (particularly the main drainage canal) and vernal pools within the SVRA, and within water features located downstream and off-site (State Parks 2011).

Implementation of the General Plan would also have a potential to cause an increase in the accidental or incidental release of other pollutants to surface waters as a result of construction activities and increased vehicular traffic. Pollutants such as sewage, and lubricants and fuels associated with vehicle operation, fueling, and maintenance can be dripped or spilled during construction activities, OHV recreation activities, and maintenance activities. Runoff and drainage flows can transport such pollutants throughout Clay Pit SVRA and then off-site, thus decreasing water quality. The increased use of these materials that would result from proposed and

envisioned construction activities, maintenance activities, and OHV recreation activities would also increase the potential for water quality degradation.

However, implementation of the General Plan would be subject to compliance with all federal, regional, and state water quality standards, as stated in the basin plan for the Central Valley Region, and as implemented through the Central Valley RWQCB (2009).

In addition, the General Plan contains extensive goals and guidelines designed to eliminate or minimize the potential for increased soil erosion and sedimentation, the discharge of other pollutants into waterways, and potential resulting water quality degradation. Although other sections of this DEIR generally do not quote Goals and Guidelines directly but instead summarize their content, the entire content of all relevant Goals and Guidelines is provided below to clearly demonstrate the degree of emphasis given to water quality improvement in the General Plan. The following goals and guidelines from the Clay Pit SVRA General Plan directly address these issues in various ways:

Drainage Management Area (DMA) Goal 1: Develop a parkwide water quality management plan to improve the quality of all surface waters entering Clay Pit SVRA, traveling through Clay Pit SVRA, and leaving Clay Pit SVRA through the Drainage Management Area.

- **DMA Guideline 1.1:** Coordinate with the Butte County Division of Environmental Health, State Water Resources Control Board, Central Valley RWQCB, Oroville Municipal Airport, and Table Mountain Golf Course to identify potential sources of pollutants, including nonpoint sources, entering Clay Pit SVRA from off-site. Develop management strategies for control of these pollutants, including sediment, lubricants, debris from tire wear, heavy metals, fertilizers, and herbicides related to operations at the airport and the golf course, and runoff from Larkin road.

- **DMA Guideline 1.2:** Identify, design, and implement measures that would eliminate or minimize potential impacts on water quality, including erosion and sedimentation. Define or outline all practices to be used parkwide that could affect water quality. These practices could include practices to be used at fueling and maintenance sites; cleanup practices in case of accidental release of pollutants; maintenance practices for sediment traps, basins, and swales; and steps to follow when adaptive management requires temporary or permanent closures of sensitive areas.

- **DMA Guideline 1.2:** Incorporate practices related to water quality that are developed to satisfy Water Goals 1 and 2 and associated guidelines; Water Guidelines 4.1 and 4.2; DMA Goal 2 and associated guidelines; Plant Guideline 1.3; Soils Guidelines 1.1, 1.2, and 1.3; NRM Guidelines 2.1 and 2.2, OM Guideline 1.5, OM Guideline 4.5, and DU Guideline 3.1.

DMA Goal 2: Implement actions within the Drainage Management Area to improve water quality and to meet water quality standards.

- **DMA Guideline 2.1:** To reduce erosion and sedimentation, rehabilitate degraded areas of the main drainage canal that have experienced substantial erosion from surface water runoff (e.g., the head cut at the beginning of the canal, areas of deep incision). Implement rehabilitation concepts for these features as described in the *Clay Pit SVRA Watershed Analysis and Action Plan* (State Parks 2011).

- **DMA Guideline 2.2:** Rehabilitate native vegetation in the Drainage Management Area to serve as filter of sediment and other pollutants that enter this area.

- **DMA Guideline 2.3:** Construct bridges, culverts, and/or low-flow crossings across the main drainage canal. Restrict OHV use in the Drainage Management Area.

Water Goal 1: Manage Clay Pit SVRA for the protection of jurisdictional waters of the U.S., including wetlands, while maintaining a quality OHV recreational experience.

- **Water Guideline 1.1:** Avoid or minimize locating facilities in areas delineated as jurisdictional waters of the U.S., including wetlands.

- **Water Guideline 1.2:** If impacts on jurisdictional features cannot be fully avoided, determine the acreage of direct impacts (i.e., fill of wetlands) and indirect impacts (i.e., alterations to wetland hydrology) that would result from project implementation. Obtain a CWA Section 404 permit from USACE, CWA Section 401 certification from the Central Valley RWQCB, a Section 1602 Streambed Alteration Agreement from DFG, and hold a Section 7 Consultation with the USFWS, as appropriate. Implement all conditions of these agreements such that the acreage of all affected wetlands and other waters of the U.S. are replaced, restored, or enhanced on a "no net loss" basis, in accordance with CWA Sections 404 and 401 requirements, the California Fish and Game Code, and the ESA. Restore, enhance, and/or replace wetland habitat acreage at a location and by methods agreeable to USACE, the Central Valley RWQCB, DFG, and/or USFWS as appropriate and depending on agency jurisdiction.

Water Goal 2: Manage Clay Pit SVRA for the protection of water quality while maintaining a quality OHV recreational experience.

- **Water Guideline 2.1:** Before, during, and following the construction of facilities proposed and envisioned in this General Plan, implement all water quality control measures required under the National Pollutant Drainage Elimination System (NPDES) Construction General Permit (2009-0009-DWQ). Develop a storm water pollution prevention plan, including the

identification of BMPs that must be implemented to reduce water quality degradation of receiving waters during and following construction activities. Incorporate construction BMPs from the OHV BMP Manual as appropriate.

- **Water Guideline 2.2:** When developing detailed plans for facilities proposed and envisioned in this General Plan, incorporate permanent water quality control features, as appropriate. Construct sediment traps, sediment basins, and bioswales as described in *Clay Pit SVRA Watershed Analysis and Action Plan* (State Parks 2011) to treat runoff from developed OHV facilities, such as tracks. Incorporate information from the OHV BMP Manual and the *2008 Soil Conservation Standard and Guidelines* as appropriate to designs. Select water quality control features appropriate to site conditions at Clay Pit SVRA (e.g., relatively impervious soils).

- **Water Guideline 2.3:** To reduce erosion and sedimentation, improve degraded areas that have experienced substantial erosion from surface water runoff (e.g., gullies that concentrate surface water flows toward the central drainage canal). Implement rehabilitation concepts for these features as described in the *Clay Pit SVRA Watershed Analysis and Action Plan* (State Parks 2011).

- **Water Guideline 2.4:** Support the efforts of the Sacramento Valley Water Quality Coalition and the Butte/Yuba/Sutter Water Quality Coalition to implement a BMP program and a program to monitor BMP effectiveness to protect regional water quality (SCRCD 2010a; SWRCB 2008).

- **Water Guideline 2.5:** Restrict temporary disturbances related to construction activities in drainage areas to the dry season.

- **Water Guideline 4.1:** If groundwater is encountered during construction of facilities proposed and envisioned in this General Plan, conduct dewatering activities in compliance with the NPDES Construction General Permit to avoid flooding in excavated areas.

- **Water Guideline 4.2:** When developing detailed plans for facilities envisioned in this General Plan, consider known areas of localized seasonal flooding at Clay Pit SVRA and avoid locating new facilities in such areas.

- **Plants Guideline 1.3:** For landscaping, use drought-tolerant plants, and as feasible, use plants and materials native to the site. Select plants that require little or no irrigation. If irrigation is required for plant establishment, use temporary irrigation methods that allow a gradual tapering of water over a 3–5 year period. Regulate water pressure at a level that applies sufficient water without causing erosion, damage to plants, or runoff.

- **Soils Guideline 1.1:** Manage Clay Pit SVRA recreation facilities to meet the 2008 Soil Conservation Standard:

  > Off-highway vehicle (OHV) recreation facilities shall be managed for sustainable long-term prescribed use without generating soil loss that exceeds restorability, and without causing erosion or sedimentation which significantly affects resource values beyond the facilities. Management of OHV facilities shall occur in accordance with Public Resources Code, Sections 5090.2, 5090.35, and 5090.53.

- **Soils Guideline 1.2:** Develop an adaptive management plan for soil resources consistent with California PRC Section 5090.35(a) and the 2008 Soil Conservation Standard. Incorporate the tools and techniques identified in the *2008 Soil Conservation Standard and Guidelines* as appropriate to site conditions at Clay Pit SVRA. Also incorporate other tools and techniques that may apply to specific facility conditions and management structure at Clay Pit SVRA.

- **Soils Guideline 1.3:** Incorporate the guidance provided in the *OHV BMP Manual for Erosion and Sediment Control* (OHV BMP Manual) (State Parks 2007) when planning for the development of new OHV facilities. Select, implement, and maintain best management practices (BMPs) during and following construction activities to avoid soil loss and potential resulting air pollution or degradation of water quality.

- **NRM Guideline 1.4:** Implement the OHMVR Division's habitat management system consistent with biological provisions in the Off-Highway Motor Vehicle Recreation Act to monitor and manage natural processes of vegetation succession, to control the spread of noxious and invasive weeds, and to protect natural wildlife habitat. Select scientifically accepted techniques and measures appropriate for the unique habitats found within Clay Pit SVRA. Develop protocols for baseline studies, focused studies, monitoring, and surveys. Use the habitat management system as a tool to aid in the development of park-specific monitoring plans and management techniques.

- **NRM Guideline 2.1:** Develop an adaptive management plan for biological resources that combines the results of monitoring implemented through the habitat management system (NRM Guideline 1.4) and monitoring for soil conservation (Soils Guideline 1.2). Identify and establish Adaptive Management Opportunity Zones in areas of high-quality natural habitat (e.g., remnant vernal pool grassland) and sensitive habitat (e.g., particular vernal pools), around areas showing indications of natural succession toward a desirable natural community type (e.g., volunteer cottonwood seedling growth), or where populations of special-status native wildlife and special-status plant species occur or could occur (e.g., elderberry shrub). Implement management actions to protect these zones from activities

that could disturb sensitive resources or to enhance/restore them as part of the adaptive management process, should resource degradation be detected during monitoring.

- **NRM Guideline 2.2:** Consider temporary or rotating closures around Adaptive Management Opportunity Zones and around areas experiencing heavy use to allow for natural regenerative processes to occur before degradation of resources requires more restrictive management actions. Consider the use of directional signage to inform visitors of sensitive and closed areas. (See IE Guideline 3.3).

- **OM Guideline 1.5:** Construct and design vault toilets that provide sufficient capacity to store wastewater to accommodate visitor needs and meet all related wastewater disposal regulatory requirements. Before constructing new vault toilets, confirm with the Sewerage Commission—Oroville Region (SCOR) that adequate treatment capacity still remains at the SCOR wastewater treatment plant at the time that new vault toilets would be built.

- **OM Guideline 4.5**: Anticipate and accommodate an increased need for restroom facilities during special events.

- **DU Guideline 3.1:** Design and construct the on-site septic system at the headquarters facilities to provide sufficient wastewater treatment capacity to accommodate proposed uses at the headquarters facilities and to meet all related septic system regulatory requirements as may be applicable.

IE Goal 3: Expand understanding of ecological relationships and heighten awareness of and sensitivity to human impacts.

- **IE Guideline 3.1:** Work with interested parties to provide education about the natural ecosystem processes at Clay Pit SVRA. Seek assistance in developing creative interpretive programming from organizations such as Tread Lightly.

- **IE Guideline 3.2:** Provide opportunities for visitors to gain an understanding of Clay Pit SVRA's natural resources, including vernal pools and grasslands. Interpret vernal pool ecology and explain sensitivities to human impacts.

- **IE Guideline 3.3:** Highlight opportunities for OHV riders to minimize their impacts on natural resources through engaging, creative interpretive programming. Provide information about temporary and rotating closed areas to encourage visitors to allow natural regenerative processes to occur in these areas. (See NRM Guideline 2.2.)

- **IE Guideline 3.4**: Provide directional signage indicating the location of fueling and maintenance sites within Clay Pit SVRA, and provide educational information regarding the use and need for these facilities. (See DU Guideline 1.4.)

- **IE Guideline 3.5:** Provide opportunities for visitors to gain an understanding of regional and local water quality issues, including the importance of implementing good water quality practices at Clay Pit SVRA. Interpret the on-site surface water drainage system and include information on potential water quality pollution sources, about infiltration properties of the local soils, and about the importance of on-site treatment measures (e.g., sediment basins, vegetative buffers).

With implementation of these Clay Pit SVRA General Plan goals and guidelines, and with compliance with all pertinent federal, state, and regional water quality standards and laws, water quality impacts related to erosion, sedimentation, and polluted runoff would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.8-3 Inadequate Water Supply or Depletion of Groundwater

No water supply currently exists at Clay Pit SVRA. Implementation of the Clay Pit SVRA General Plan would require water for landscape irrigation, dust control on unpaved roads and track areas, and for restroom facilities at the headquarters. The majority of the water demand would be to control dust. Water would be stored in one or more aboveground tanks, which would be used to fill water trucks, and could also provide water pressure for piped water uses (e.g., irrigation).

The amount of water required for implementation of the General Plan is estimated to equal or be less than that used at the Prairie City SVRA in Rancho Cordova. The amount of water used in 2009 at the Prairie City SVRA was approximately 24,500,000 gallons, or 75 acre-feet. The highest water use is from March through October, when use is about 50–70% greater than during November through February. In summer, watering takes place 10 to 12 hours per day Friday through Sunday at a rate of about 12,000 to 15,000 gallons per track. During the driest parts of the year the highest daily usage at Prairie City SVRA is approximately 178,000 gallons; the highest monthly usage is approximately 3,124,600 gallons (9.59 acre-feet). Water demand does not exceed a maximum of 125 gallons per minute.

Water supplies in the area of Clay Pit SVRA include both surface water and groundwater. The headquarters facilities will obtain water through the construction of a new on-site well. Because the water supply source that will be used to support future development envisioned in the General Plan has not yet been determined, both surface water and groundwater are evaluated herein.

Using groundwater as a water supply would depend on the ability of the supply to meet both short-term (daily use) and long-term (expected life of the project) project needs without causing the supply to be depleted (i.e., a net deficit of aquifer volume or a lowering of the local groundwater table level). Groundwater depths in the East Butte Subbasin have remained fairly stable over time. Review of well data from the California Department of Water Resources indicates that depth to groundwater near the Clay Pit SVRA site varies seasonably from approximately 30 to 45 feet below ground surface (Geocon 2010). Shallow wells can yield large quantities of water, reported from 200 to 2,000 gallons per minute (SCRCD 2010). Long-term observations of nearby wells suggest that periodic declines in groundwater elevations are climate related and not the result of overusing groundwater resources. See Section 2.3.1, "Physical Resources," of the Clay Pit SVRA General Plan for additional discussion of groundwater resources. Based on this groundwater data, the groundwater supply within the area of the SVRA appears to have adequate production rates and adequate supply for the long-term water demand required to implement the General Plan without causing a net deficit of aquifer volume or a lowering of the local groundwater table level.

An alternative to developing an on-site groundwater supply would be purchasing water from Butte County. This water could be conveyed to the Clay Pit SVRA site from facilities that supply water to the nearby Oroville Municipal Airport. The SVRA is located in an area of abundant surface water resources with Lake Oroville and the Feather River located nearby. Since Butte County became a State Water Project contractor in the1960s, the County has sought to find in-county uses for its entire allocation. However, because water costs and water infrastructure costs are high, Butte County has been unable to use the entire 27,500 acre-foot allocation within the County. Although the in-county utilization doubled in 2008-2009, the Butte County Department of Water and Resource Conservation (Department) is continuing a feasibility study to investigate options for the use of their entire contracted allocation. Until full in-county utilization can be achieved, the Department will continue to pursue opportunities that allow for the management of surplus water (Butte County 2010). See Section 2.3.1, "Physical Resources," of the General Plan for additional discussion of surface water resources. Because Butte County has historically had a surplus of water allocated through the State Water Project, this water would be suitable to meet the long-term water demand required to implement the General Plan.

In addition, Clay Pit SVRA General Plan Water Guideline 3.1 requires that when the OHMVR Division is developing detailed plans for facilities envisioned in the General Plan, they assess available water sources that will yield sufficient water supplies needed for operation and maintenance of facilities, and that they develop this water supply as appropriate in compliance with state regulatory requirements at that time. This would account for any change in water supply or water supply regulation between now and when facilities proposed or envisioned in the General Plan are constructed.

Because information regarding groundwater and surface water supplies indicate that these supplies would be adequate to meet the long-term needs of Clay Pit SVRA following implementation of the General Plan, and because Water Guideline 3.1 addresses potential changes in this supply, impacts related to inadequate water supply or the depletion of groundwater would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.8-4 Violation of Water Quality Standards or Waste Discharge Requirements

The Lower Feather River (Lake Oroville Dam to the confluence with Sacramento River), located approximately 0.5 mile east of Clay Pit SVRA, is listed as impaired on the current Section 303(d) list. All surface water from the watershed drains through the SVRA to the Lower Feather River during high flow events via an abandoned oxbow on the east.

All federal, regional, and state water quality standards, as stated in the basin plan for the Central Valley Region, are implemented through the Central Valley RWQCB (2009). These standards have been set to control both point and nonpoint sources of water pollution.

As described in Impact 3.8-2 above, implementation of the General Plan would have a potential to increase the amount of pollutants entering water features within the Clay Pit SVRA area. However, consistent with Clay Pit SVRA General Plan Soils Guidelines 1.1 through 1.3, Water Guidelines 1.1, 1.2, 2.1, 2.2, and 4.1, all development associated with the General Plan would conform to water quality standards enforced by the SWRCB, through compliance with the newly adopted NPDES Construction General Permit, Sections 401 and 404 of the CWA, all State Parks and OHMVR Division standards and guidelines, and all other relevant standards and regulations described above and in Section 2.7.3, "Regulatory Influences," of the General Plan.

Because implementation of the General Plan would adhere to pertinent federal, state, and regional water quality standards, no water quality standards would be violated and this impact would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. No potential impacts associated with construction or operation of the headquarters facilities would be in addition to or otherwise different from the potential impacts described above; therefore, no additional analysis related to the headquarters facilities is necessary.

3.8.5 Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant impacts on hydrology and water quality resources. Constructing and operating the headquarters facilities also would not result in significant impacts on hydrology and water quality resources.

3.8.6 Mitigation Measures

No significant impacts on hydrology and water quality would result with implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

3.9 Public Services and Utilities

This section presents details about the existing setting and the regulatory setting for public services and utilities. It also presents an analysis of the public services and utilities impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities. This analysis focuses on park security; fire response; medical aid; emergency access and egress; wastewater treatment facilities; water delivery; and electricity, gas, and telephone services.

3.9.1 Existing Setting

Emergency Services

Security

State Park Peace Officers (SPPOs) patrol Clay Pit SVRA 7 days per week. Emergency services can be contacted through the 911 emergency number, and radio communications are available to emergency responders at the site. Emergency calls are routed through the California Highway Patrol (CHP) or from State Parks' NORCOM dispatch center and are dispatched to CHP officers or to SPPOs from the Oroville offices of the State Parks Northern Buttes District.

Fire Protection

The Butte County Fire Department (BCFD) is the jurisdictional agency responsible for responding to fires within Clay Pit SVRA; however, fire management is provided through the California Department of Forestry and Fire Protection (CAL FIRE). Butte County contracts with CAL FIRE to provide staffing to the BCFD through an annual cooperative agreement. Under the terms of this agreement, Butte County funds CAL FIRE professional command, firefighting, and administrative staff for operations. Through this arrangement, CAL FIRE and BCFD function together as a fully consolidated fire protection agency and provide cost-effective fire protection service for Butte County (Butte County 2007:7-22). The closest Butte County fire station, Station 72, is located approximately 5 miles southeast of Clay Pit SVRA (Butte County 2009).

Medical Aid

BCFD responds to 911 calls, and Oroville Ambulance responds to 911 medical aid calls originating from within the SVRA. On-site SPPOs are trained in emergency responder medical aid and typically serve as first responders to medical emergencies. Medical equipment kept on-site in law enforcement vehicles includes oxygen, trauma kits, and equipment to assess the extent of injuries, such as blood pressure gauges and stethoscopes.

Emergency Access/Egress

Regional emergency access to the SVRA is provided via SRs 70 and 99, while direct access is provided via SR 162 and Larkin Road. No formal internal access roads are within the Clay Pit SVRA boundary. However, an existing entrance road and parking lot at the northeasternmost portion of the SVRA provide primary access for emergency responders. Overall, Clay Pit SVRA is dominated by open terrain that is accessible by law enforcement vehicles and most emergency response vehicles.

Utilities

No utilities are provided on-site; however, utilities (e.g., telephone, electricity, fiber optic cable, water, sewer) are provided across Larkin Road at the Oroville Municipal Airport and surrounding businesses. These utilities could be extended to the SVRA. Telephone is available through AT&T and Comcast, cable is available through Comcast, electricity is available through the Pacific Gas and Electric Company (PG&E), and water is available through the Thermalito Irrigation District. Water also could be provided by constructing one or more wells on-site; water tables in nearby wells are shallow.

Wastewater generated at the SVRA through use of the existing vault toilet is treated at the Sewerage Commission—Oroville Region (SCOR) 60-acre wastewater treatment plant, which is designed to process 6.5 million gallons of wastewater per day. The SCOR wastewater treatment plant serves the city of Oroville and outlying rural areas, including the SVRA. Wastewater stored in the existing vault toilet is pumped, then transported to the facilities of one of three wastewater collection agencies (i.e., City of Oroville, Lake Oroville Area Public Utility District, or Thermalito Water and Sewer District), which convey wastewater to the SCOR wastewater treatment plant (Butte County LAFCO 2009:3-1). Percolation test results indicate that soils on-site have very slow infiltration properties that are not suitable for a standard gravity-fed septic system (Geocon 2010).

Recology Butte Colusa Counties provides trash collection and recycling services for residents and businesses of Butte County. Solid waste is transported to the Neal Road Recycling and Waste Facility. The Neal Road Recycling and Waste Facility is located in an unincorporated area south of the city of Chico and approximately 15 miles north of the project site. Permitted waste types at the Neal Road Recycling and Waste Facility include Class II and III, nonhazardous, municipal waste (e.g., construction/demolition, green materials, inert, metals, mixed municipal, sludge [biosolids], tires, wood waste). The permitted rate of disposal for the landfill is a maximum of 1,500 tons per day, with a maximum permitted capacity of more than 25 million cubic yards. The landfill has a remaining capacity of more than 20 million cubic yards and is estimated to reach capacity (i.e., ease operation) in 2033 (CalRecycle 2010).

3.9.2 Regulatory Setting

No federal regulations are applicable to public services and utilities associated with implementing the Clay Pit SVRA General Plan.

State Plans, Policies, Regulations, and Laws

The California Fire Code (CFC) and Office of the State Fire Marshall provide regulations and guidance for local agencies in the development and enforcement of fire safety standards. The CFC also establishes minimum requirements that would provide a reasonable degree of safety from fire, panic, and explosion.

The Uniform Fire Code (UFC) is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The UFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The UFC (and the Uniform Building Code) use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the UFC employs a permit system based on hazard classification.

Regional Plans, Policies, Regulations, and Ordinances

Butte County has an emergency operations plan that serves as the official emergency plan in Butte County, including Clay Pit SVRA. The plan includes planned operational functions and overall responsibilities of the Butte County departments during an emergency situation.

Butte County regulates septic systems that serve the needs of an individual user (e.g., single residence, office building). Butte County's on-site wastewater ordinance (Chapter 19 of the Butte County Municipal Code) regulates and establishes standards for design, construction, installation, operation, maintenance, monitoring, replacement, alteration, enlargement, repair, and abandonment of on-site wastewater treatment, conveyance, and dispersal systems. The ordinance also ensures compliance with applicable standards, laws, and guidelines as adopted, and/or modified by the SWRCB or the Central Valley RWQCB. The ordinance requires a site evaluation as part of obtaining an On-Site Wastewater System Construction Permit and examines factors affecting design of on-site wastewater systems, including ground slope, soil textural characteristics, effective soil depth, horizontal setbacks, and available area for 100% system replacement (Butte County Municipal Code, Chapter 19, On-Site Wastewater Systems). Because no statewide septic regulations apply, the OHMVR Division will comply with the local Butte County on-site wastewater ordinance for planning purposes at Clay Pit SVRA.

3.9.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to public services and utilities if it would:

- cause significant environmental impacts from the construction of new or expanded facilities or services required in order to maintain acceptable service ratios, response times, or other performance objectives for any public services, including police, fire, medical aid, emergency access, or schools.
- exceed wastewater treatment requirements of the Central Valley RWQCB;
- require or result in the construction of new water, wastewater treatment, or utility (e.g., electrical) facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- result in insufficient water supplies available to serve the project from existing entitlements and resources, or cause significant environmental impacts from the need for new or expanded entitlements;
- result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to supply the project's projected demand in addition to the provider's existing commitments;
- be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- conflict with federal, state, and local statutes and regulations related to solid waste.

Water quality issues associated with stormwater runoff and water supply issues associated with the project's demand for potable water are addressed in Section 3.8, "Hydrology and Water Quality," in this DEIR.

Wildland fire hazards and emergency access issues are addressed in Section 3.10, "Hazards and Hazardous Materials," in this DEIR.

Implementation of the General Plan would not result in or encourage the development of any residential land uses that would generate a demand for school services; therefore, this issue is not addressed further in this DEIR.

3.9.4 Environmental Evaluation

Evaluation Methodology

Evaluation of public services and utilities is based on research of solid waste facilities, service providers (e.g., propane, electricity, communications), and utility districts (e.g., sewer) serving the Oroville area to determine capabilities and potential physical improvements required for serving the needs associated with implementing the General Plan.

General Plan Impact Analysis

IMPACT 3.9-1 Risk of Exceeding Wastewater Treatment Capacity or Requirements

Implementation of the Clay Pit SVRA General Plan would involve the use of on-site wastewater treatment and disposal facilities. Vault toilets would be provided to visitors throughout the SVRA. (See Impact 3.9-4 below for discussion of wastewater treatment at the headquarters facilities.) Like the existing vault toilet, the proposed vault toilets would store wastewater until it is pumped and transported to the facilities of one of three wastewater collection agencies: City of Oroville, Lake Oroville Area Public Utility District, or Thermalito Water and Sewer District. These agencies would then convey the wastewater to the 60-acre SCOR wastewater treatment plant, which is designed to process 6.5 million gallons of wastewater per day. The amount of wastewater that would be generated by the increase in visitors to the SVRA following implementation of the General Plan would be negligible relative to the amount of wastewater processed at this treatment plant and would not be expected to exceed treatment capacity.

Consistent with OM Guideline 1.5, vault toilets would be designed and constructed to provide sufficient wastewater storage capacity to accommodate visitor needs and to meet all related wastewater disposal regulatory requirements. In addition, consistent with OM Guideline 1.5, before constructing new vault toilets, the OHMVR Division would confirm that adequate treatment capacity still remains at the SCOR wastewater treatment plant at the time that new vault toilets would be built.

Because all regulatory requirements would be met and because the amount of wastewater that would be generated by implementation of the General Plan would be negligible relative to the amount of wastewater processed at the SCOR plant, treatment capacity would not be exceeded, treatment requirements would be met, and the construction of new or expanded facilities would not be required. This impact would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.9-2 Increased Demand for Utilities and Solid Waste Disposal That Would Exceed Existing Capacity

OM Guideline 1.3 in the General Plan aims to incorporate sustainable practices into future development and operations:

The use of sustainability initiatives could reduce demand for utilities such as water, electricity, or solid waste disposal. The application of LEED standards would help ensure that proposed facilities are designed and built using strategies aimed at improving performance across many metrics: energy savings, water efficiency, reduced emissions of carbon dioxide, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts. Nonetheless, implementation of the General Plan would result in an expansion of services to visitors and, thus, would slightly increase the demand for utilities and solid waste disposal. However, the increase in demand for utilities and solid waste disposal would be expected to be minor and not exceed landfill capacity or result in demand for expansion of existing regional facilities.

Following implementation of the General Plan, a limited amount of electricity would be needed at Clay Pit SVRA. Facility development and improvement under the General Plan would increase regional electrical demand slightly, though many improvements would not require power (i.e., shade structures, trails, picnic facilities). New on-site electrical distribution would be installed as necessary. PG&E would provide expanded electrical service to the headquarters facilities via connection to existing electrical services provided to the Oroville Airport. Telephone service would also be brought to the headquarters facilities via connection to existing services provided to the Oroville Airport. The minor increase in demand for electricity and telephone service generated by implementation of the General Plan would not affect the overall regional supply, facilities, or distribution. The potential use of photovoltaic solar panels to generate electricity within the SVRA would help to meet the on-site demand for electricity.

Propane gas would be provided via an on-site tank for water and air heating at the headquarters facility, and demand would be minimal. The propane tank would be refilled as needed. The minor increase in propane demand generated by implementation of the General Plan would not affect overall regional supply, facilities, or distribution.

Recology Butte Colusa Counties currently provides solid waste disposal services to the SVRA. With increased visitation at Clay Pit SVRA, the generation of solid waste would also increase. As future demand warrants additional waste receptacles, Recology Butte Colusa Counties would provide the additional needed service and maintenance. Solid waste is transported to the Neal Road Recycling and Waste Facility. The permitted rate of disposal for the landfill is a maximum of 1,500 tons per day, with a maximum permitted capacity of more than 25 million cubic yards. The landfill has a

remaining capacity of more than 20 million cubic yards and is estimated to reach capacity (i.e., cease operation) in 2033 (CalRecycle 2010). The anticipated increase in solid waste generation at Clay Pit SVRA (estimated at 48 pounds per day [one-half pound per visitor per day]) would be less than 1% of permitted waste per day on a regional scale and would not exceed landfill capacity or require the creation of additional solid waste disposal services or facilities (CalRecycle 2010 and 2011).

Because the increase in demand for utilities and solid waste disposal would be relatively small, and because it would not result in the need for new or expanded regional or local infrastructure or supplies, this impact would be ***less than significant.***

Mitigation Measures: No mitigation is required.

IMPACT 3.9-3 Increased Demand for Emergency Services That Would Exceed Existing Capacity

The construction of new OHV facilities envisioned in the General Plan would create additional OHV riding opportunities at Clay Pit SVRA. Because OHV use has an inherent level of risk, the construction of new OHV facilities would provide additional opportunities for OHV recreation and therefore increase this risk. However, the OHV facilities would be designed and constructed with visitor safety as a primary objective. ORA Guidelines 1.2 and OM 3.2 require that the OHMVR Division monitor areas for hazards, provide clear signage, and close areas with unsafe conditions until improvements are completed. In addition, facilities such as OHV tracks and obstacles for 4x4 vehicles would cater to novice and intermediate recreationistss and would not facilitate high-speed or high-risk challenges.

The construction of new OHV facilities at the SVRA is also anticipated to result in an increase of visitors to the SVRA. An increase in visitors could increase the need for security at the SVRA. However, future development of Clay Pit SVRA would continue to be focused on community- and family-oriented OHV and OHV-compatible recreation opportunities. The family-focused atmosphere and novice riding conditions at the SVRA would help to keep the risk of potential emergency and security situations, such as high-speed collisions or illegal activity, to a minimum. For these reasons, the demand for emergency services would not be expected to increase substantially with implementation of the Clay Pit SVRA General Plan.

Security and first responder medical aid within the SVRA is provided by SPPOs. Although the need for these services would likely increase by a small amount following implementation of the General Plan, under typical operating conditions, the full-time SPPO that currently serves Clay Pit SVRA would be sufficient to meet these needs. Additional staffing would be required and used during special events, consistent with staffing levels provided at special events currently held at other SVRA facilities. An SPPO would continue to patrol the SVRA during open hours, they would

continue to be the first to respond to security and medical emergencies, and they would continue to receive backup services through radio communication with the CHP and the Butte County Sheriff's office to ensure an adequate response in the case of an emergency requiring outside attention, such as medical transport.

Construction of new facilities envisioned in the General Plan, and the resulting anticipated increase in visitors, could minimally increase the risk of accidental fires and the need for fire suppression. However, any new facilities constructed would be built to meet all fire code regulations (summarized above in Section 3.9.2, "Regulatory Setting"). Because the facilities would be accessible using standard fire equipment, construction of these facilities would not create a need for additional fire equipment. Because no change in land use or access to the SVRA would result from implementing the General Plan, there would be no increase in the response time of the BCFD to the SVRA. Emergency personnel and equipment would continue to have direct access to Clay Pit SVRA via Larkin Road. As with security services, radio communication between the SPPO, CHP, and BCFD would continue. BCFD would also continue to respond to all 911 medical emergencies with an ambulance service provided by Oroville Ambulance.

In addition, General Plan VEO Guidelines 3.4 and 3.5 require continued coordination with state and local districts and agencies and require that detailed planning for the development of new facilities include consideration of the adequate provision and access of emergency personnel.

Because the demand for emergency services would not increase substantially with implementation of the General Plan, because existing emergency services would continue and would be sufficient to meet emergency response needs, and because all new facilities would meet fire code regulations, implementation of the General Plan would result in a ***less-than-significant*** impact on the demand for emergency services.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. The discussions of solid waste disposal (Impact 3.9-2) and emergency services (Impact 3.9-3) related to the construction and operation of facilities envisioned in the General Plan are also applicable to the headquarters facilities alone; therefore, no additional analysis related to the headquarters facilities is necessary.

The following analysis addresses a potential impact specific to the operation of the headquarters facilities alone. Wastewater disposal would be handled differently at the headquarters facilities than in the rest of the SVRA; a septic system would be used for the headquarters facilities while vault toilets would be used throughout the rest of the SVRA.

IMPACT 3.9-4 Risk of Exceeding Wastewater Treatment Capacity or Requirements

Construction and operation of the headquarters facilities proposed in the General Plan would involve the use of on-site wastewater treatment and disposal facilities. Because percolation tests indicate that on-site soils are not suitable for a standard gravity-fed septic system, the OHMVR Division would design and construct an engineered septic system at the headquarters facilities. This engineered septic system would be designed and constructed according to site constraints and could involve the use of an aboveground leach field, a sand filtration system, or other engineered components.

Consistent with DU 3.1, this septic system would be designed and constructed to provide sufficient wastewater treatment capacity to accommodate proposed uses at the headquarters facilities, and to meet all related septic system regulatory requirements, including the receipt of an On-Site Wastewater System Construction Permit from Butte County as applicable.

Therefore, the capacity of existing wastewater treatment facilities would not be affected, a demand for additional wastewater treatment capacity would not be created, and treatment regulations would not be exceeded. This impact would be ***less than significant***.

Mitigation Measures: No mitigation is required.

3.9.5 Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant impacts related to public services or utilities. Constructing and operating the headquarters facilities would not result in significant impacts related to public services or utilities.

3.9.6 Mitigation Measures

No significant impacts on public services and utilities would result with implementation of the General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

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3.10 Hazards and Hazardous Materials

This section presents details about the existing setting and the regulatory setting for hazards and hazardous materials. It also presents an analysis of hazards and hazardous materials impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating headquarters facilities.

3.10.1 Existing Setting

Section 2.4.2, "Public Safety," of the General Plan includes a description of the emergency services available to Clay Pit SVRA and supplements other setting information provided below.

Hazardous Materials

Hazardous materials can be defined as items, substances, or chemicals that are health hazards or physical hazards and/or can cause harm to people, plants, or animals when released into the environment. Hazardous materials may be released into the environment through spilling, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposal. The use of hazardous materials is common in many commercial, industrial, and manufacturing activities, and in general household use. Hazardous materials require special methods of disposal, storage, and treatment. Common hazardous materials currently used within Clay Pit SVRA include gasoline and oil products used for vehicle and OHV operations.

In December 2010, a search of the Cortese List database (described below in Section 3.10.2, "Regulatory Setting") was performed by AECOM for the vicinity of the Clay Pit SVRA (DTSC 2007; SWRCB 2010). No documented hazardous materials release sites are located within the SVRA. There are seven known hazardous materials release sites within 1 mile of the SVRA, all located to the north of the site on Oroville Municipal Airport property. The status of three of the sites is "completed-closed," meaning a formal closure decision document has been issued for these sites. Three sites, located 0.8 mile north of the SVRA, are classified "open-site assessment," meaning these sites are under investigation. One site, located approximately 900 feet north of the SVRA, is classified "open-inactive," indicating that no regulatory oversight activities are being conducted by the lead agency. Contamination at the three sites classified "open-assessment" stems from former Army and Air Force activities on the site, and contamination consists of lead in the soils and other unspecified materials. Contamination at the single site located 900 feet to the north of the SVRA stems from diesel contamination in surface water.

Airport Safety

The *Butte County Airport Land Use Compatibility Plan* (ALUCP) (Butte County 2000) describes compatibility zones surrounding airports in Butte County. These compatibility zones have compatibility criteria, which are policies and restrictions that minimize potential hazards around airports. These criteria address issues such as maximum population density, land use intensity,

height restrictions, and lighting. Height restrictions are based on Part 77, Subpart C, of the Federal Aviation Regulations.

Most of Clay Pit SVRA is located within the Traffic Pattern Compatibility Zone (Zone C) of the nearby Oroville Municipal Airport. Zone C is the area that is commonly overflown by aircraft at an altitude of 1,000 feet or less above ground level. A portion of the SVRA, primarily along the western and northern terrace, is located in the Extended Approach Compatibility Zone (Zone B2). Zone B2 is the extended aircraft approach/departure zone where moderate degrees of noise and risk are present. Compatibility criteria contained in the ALUCP require airspace review for objects greater than 70 feet tall in the Zone B2 and for objects greater than 100 feet tall in Zone C. There are also restrictions on density and intensity of land uses within these zones (Butte County 2000:3-2). Clay Pit SVRA is in compliance with these restrictions.

There are no private airstrips within 2 miles of the SVRA site.

Wildfire

Wildland fire protection in California is the responsibility of the state, local, or federal government. Local responsibility areas include incorporated cities, cultivated agricultural lands, and portions of the desert. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government. Clay Pit SVRA is located in a local responsibility area in unincorporated Butte County. The SVRA is not located in a fire hazard severity zone as mapped by CAL FIRE (CAL FIRE 2007). Butte County Fire Department (BCFD) is the jurisdictional agency responsible for responding to fires within the SVRA; however, because the SVRA is a state facility, fire management is provided through CAL FIRE. Butte County contracts with CAL FIRE to provide staffing to the BCFD through an annual cooperative agreement. Under the terms of this agreement, Butte County funds CAL FIRE professional command, fire-fighting, and administrative staff for operations. The closest Butte County fire station, Station 72, is located approximately 5 miles southeast of Clay Pit SVRA (Butte County 2009). Additional discussion of fire services is included in Section 3.9, "Public Services and Utilities," in this DEIR.

3.10.2 Regulatory Setting

This section describes planning and regulatory information related to hazards and hazardous materials to supplement the information provided in Section 2.7, "Planning Influences," of the Clay Pit SVRA General Plan.

Federal Plans, Policies, Regulations, and Laws

Comprehensive Environmental Response, Compensation, and Liability Act

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980 in response to the contamination found at an abandoned factory site at Love Canal, New York (42 U.S. Code [USC] 9601 et seq.). CERCLA established requirements for remediation of closed, abandoned hazardous waste sites; provided liability for persons responsible for release of hazardous substances at these sites; and designated the federal government as the lead agent for the cleanup of hazardous substances, pollutants, or contaminants identified at "Superfund" sites (described below). CERCLA was amended in 1986 to clarify federal responsibilities for remediating contamination found at these sites.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) included provisions appropriating funds to federal agencies for the remediation of contamination on federal sites (10 USC 2701 et seq.). SARA pertains primarily to emergency management of accidental releases. It requires formation of state and local emergency planning committees, which are responsible for collecting material handling and transportation data for use as a basis for planning. Chemical inventory data are made available to the community at large under the "right-to-know" provision of the law. In addition, SARA also requires annual reporting of continuous emissions and accidental releases of specified compounds. These annual submissions are compiled into a nationwide Toxics Release Inventory.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) Subtitle C addresses hazardous waste generation, handling, transportation, storage, treatment, and disposal. It includes requirements for tracking the movement of waste from the site of generation to the site of its ultimate disposition. The 1984 amendments to RCRA created a national priority for waste minimization. Subtitle D establishes national minimum requirements for solid waste disposal sites and practices. It requires states to develop plans for the management of wastes within their jurisdictions. Subtitle I requires monitoring and containment systems for underground storage tanks that hold hazardous materials. Owners of tanks must demonstrate financial assurance for the cleanup of a potential leaking tank.

State Plans, Policies, Regulations, and Laws

Various state agencies regulate hazardous materials, including the California Environmental Protection Agency (Cal/EPA) and the Governor's Office of Emergency Services. The California Highway Patrol and California Department of Transportation enforce regulations for hazardous materials transport. The Department of Toxic Substances Control (DTSC) has primary regulatory

authority for enforcing hazardous materials regulations. State hazardous waste regulations are contained primarily in Title 22 of the California Code of Regulations (CCR). The California Occupational Health and Safety Administration has developed rules and regulations regarding worker safety around hazardous and toxic substances.

The Cortese List

The Cortese List is a planning document used by state and local agencies and developers to comply with CEQA. CEQA requires that information be provided about the location of hazardous materials release sites as related to proposed projects undergoing CEQA review. California Government Code Section 65962.5 requires the Cal/EPA to update the Cortese List database annually. Within Cal/EPA, DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

California Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) is the primary hazardous waste statute in California. The HWCL implements RCRA as a "cradle-to-grave" waste management system in California. The HWCL specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. The HWCL exceeds federal requirements by mandating source-reduction planning and containing a much broader requirement for permitting facilities that treat hazardous waste. It also regulates a number of types of waste and waste management activities that are not covered by federal law under RCRA.

California Code of Regulations

Most state and federal regulations and requirements that apply to generators of hazardous waste are spelled out in CCR, Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators; transporters; and treatment, storage, and disposal facilities. Because California is a fully authorized state according to RCRA, most RCRA regulations (those contained in 40 CFR 260 et seq.) have been duplicated and integrated into Title 22. However, because DTSC regulates hazardous waste more stringently than the federal Environmental Protection Agency, the integration of California and federal hazardous waste regulations that make up Title 22 do not contain as many exemptions or exclusions as does 40 CFR 260. As with the California Health and Safety Code, Title 22 also regulates a wider range of waste types and waste management activities than the RCRA regulations in 40 CFR 260. To aid the regulated community, California compiled the hazardous materials, waste, and toxics-related regulations contained in CCR, Titles 3, 8, 13, 17, 19, 22, 23, 24, and 27 into one consolidated CCR Title 26, "Toxics." However, the California hazardous waste regulations are still commonly referred to as Title 22.

Regional Plans, Policies, Regulations, and Ordinances

Certified Unified Program Agency

The Butte County Public Health Department, Environmental Health Division, was certified by Cal/EPA as the Certified Unified Program Agency (CUPA) for Butte County in 2005. The CUPA Program is the consolidation of six state hazardous materials management programs into one program under the authority of CUPA. CUPA inspects businesses or facilities that handle or store hazardous materials; generate and/or treat hazardous waste; own or operate underground storage tanks; store petroleum in aboveground tanks over state thresholds; and store federal regulated hazardous materials over state thresholds. The CUPA Program is instrumental in accomplishing this goal through education, community and industry outreach, inspections, and enforcement. Although the CUPA is administered by Butte County, because it was certified by the Cal/EPA, the CUPA has regulatory authority at the state-owned Clay Pit SVRA.

Interagency Hazardous Material Team

The Interagency Hazardous Material Team was organized by the Butte County Fire Chiefs' Association beginning in 1989 through the use of a Joint Powers Agreement. Team members are provided by the various fire departments in the area: Cities of Chico, Oroville, Paradise, Biggs, and Gridley; and the County of Butte/CAL FIRE. The team is composed of 30 to 40 hazardous-material specialists. Through California Master Mutual Aid, this team is available for response throughout California (Butte County 2009).

3.10.3 Thresholds of Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementation of Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would have significant environmental impacts related to hazards and hazardous materials if it would:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or require the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;

- result in a safety hazard for people residing or working within the area covered by an airport land use plan or within the vicinity of a private airstrip;

- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

- expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

There are no schools located within one-quarter mile of Clay Pit SVRA. This issue is not discussed further in this DEIR.

As described in the Existing Setting above, no documented hazardous materials release sites are located within the SVRA or the immediate vicinity. Implementation of the General Plan would pose no hazard risk from building on such a site. This issue is not discussed further in this DEIR.

No private airstrips are located in the vicinity of Clay Pit SVRA. This issue is not discussed further in this DEIR.

Implementation of Clay Pit SVRA General Plan would not result in substantial adverse effects to existing roadways (see Section 3.1, "Transportation and Traffic," of this DEIR) and would not interfere with an adopted emergency response plans or emergency access routes. Implementing the General Plan would improve emergency access to the SVRA by providing a new access road, while retaining the existing access road for emergency access. Implementing the General Plan would also improve emergency access within Clay Pit SVRA by constructing an internal circulation system. This issue is not discussed further in this DEIR.

3.10.4 Environmental Evaluation

Evaluation Methodology

Evaluation of hazards and hazardous materials is based on a record search of the Cortese List database maintained by DTSC; a review of land use compatibility zones and land use compatibility criteria described in the ALUCP; a review of the State Responsibility Areas and Local Responsibility Areas as defined by CAL FIRE; and a review of the *Butte County General Plan Health and Safety Element.*

General Plan Impact Analysis

IMPACT 3.10-1 Potential Risks Associated with Transporting and Using Hazardous Materials

Hazardous materials would be used during construction activities proposed and envisioned in the Clay Pit SVRA General Plan. Hazardous materials typically used in construction operations include substances such as diesel fuel, solvents, and paints. Similarly, hazardous materials would be used during park operation activities proposed and envisioned in the General Plan. In addition, a propane tank would be installed and used at the headquarters facilities. OM Guideline 3.4 requires that all hazardous materials used by OHMVR Division staff or contractors during construction activities be handled, stored, transported, and used in accordance with all federal, state, and local regulations, thus minimizing any potential accidental release or exposure from these materials. OHMVR Division maintenance staff would inspect construction activities to ensure compliance with this guideline.

A self-contained fuel station may be installed within the proposed outdoor maintenance yard, which would pose a hazardous risk. The fuel station would consist of one aboveground fuel tank with pumps, and would be installed on a concrete slab with concrete berms to provide full containment in case of an accidental spill. The aboveground tank would hold and dispense both gasoline and diesel for use in State Parks vehicles. Design, construction, and operation of the fuel station would comply with all applicable regulatory requirements regarding the handling, storage, containment, transport and use of hazardous materials, thus minimizing any potential accidental release or exposure from this new facility. OHMVR Division maintenance staff would inspect operations of this fuel station to ensure proper operations.

The enhancement and expansion of facilities and recreational opportunities at Clay Pit SVRA is anticipated to attract additional visitors to the park, which would increase the use of gasoline and oils needed for the operation of OHVs. The increased use of these common materials would not create a substantial hazard to the public or environment because individuals would handle relatively small volumes of these materials. In addition, DU Guideline 1.4 requires that one or more fueling and maintenance sites be constructed at Clay Pit SVRA when new OHV facilities are constructed. Such stations would be designed to capture materials accidentally spilled during fueling or maintenance activities, thus minimizing the risk of accidental release of such hazardous materials into the environment.

Section 3.8, “Hydrology and Water Quality,” Impact 3.8-2, “Reduced Surface Water Quality Caused by Erosion, Sedimentation, and Polluted Runoff,” includes a discussion of potential impacts at Clay Pit SVRA as a result of runoff from the Oroville Municipal Airport on surface water quality.

Because the handling, storage, transport, and use of hazardous materials at the SVRA would comply with all applicable regulatory requirements, and because guidelines in the General Plan

would minimize the potential for hazardous material related accidents and spills, potential risks associated with the use and transport of hazardous materials resulting from implementation of the General Plan would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.10-2 Potential Risks to People Residing or Working Near an Airport

Clay Pit SVRA is located south and east of the Oroville Municipal Airport across Larkin Road. Implementation of the General Plan would not result in the construction of any new residences near the airport, and would result in typically no more than five employees on-site. Visitors to the SVRA would remain only temporarily, thus reducing their exposure to airport-related hazards (in comparison to people working or living at a location near an airport).

The majority of the 220-acre SVRA site is located in the Airport Traffic Pattern Zone (Zone C), described in Section 3.10.2 of the ALUCP. Approximately 45 acres of the western portion of the site is within the Extended Approach/Departure Zone (Zone B2). Objects located in Zone B2 must be no more than 70 feet tall, and objects in Zone C must be no more than 100 feet tall. Because all facilities proposed or envisioned in the General Plan would be single story they would comply with these height restrictions.

Within Zone B2, the density of people in Clay Pit SVRA is limited to a maximum of 50 people/acre averaged over the 45 acres, with no single acre to exceed 100 people. Within Zone C, the maximum density is 100 people/acre averaged over the site, with no more than 300 people in any 1 acre (Butte County 2000). Visitation projections indicate that implementation of the General Plan would result in an estimated 350 visitors to the SVRA on a peak weekend day (General Plan Appendix C). These estimates do not represent the number of visitors present at one time, since visitors would arrive and leave at different times. In addition, visitors are usually scattered over the 220-acre site. Therefore, it is not expected that people would typically congregate in densities that would exceed maximum density limitations in the ALUCP.

Although special events are anticipated to attract a similar number of visitors per day, they may draw more visitors at one time, and participants and spectators likely would be concentrated in and near the event areas. Therefore, depending upon the location of event areas and spectator viewing areas, it is possible that special events could attract concentrations of people that would exceed Zone B2 maximum density limitations. However, OM Guideline 5.1 requires event areas and spectator viewing areas to be located to avoid exceeding the ALUCP land use compatibility criteria. In addition, OM Guideline 4.7 requires that measures to limit such concentrations of people be implemented as a requirement of Special Event permits. Such measures could include closing access to a special event area if the number of visitors approaches density limits.

Extensive nighttime lighting at Clay Pit SVRA could pose a hazard risk associated with nighttime flights to and from the adjacent airport. However, because the SVRA would close at dusk, extensive nighttime lighting for OHV activities would not be necessary. (See Impact 3.10-4 below for a discussion of nighttime lighting at the headquarters facilities.)

Because visitors to Clay Pit SVRA would remain only temporarily, facilities would meet ALUCP height restrictions, General Plan guidelines incorporate measures to restrict concentrations of people that would exceed ALUCP limits, and extensive nighttime lighting would not be required for OHV activities, potential risks associated with the nearby airport would be ***less than significant***.

Mitigation Measures: No mitigation is required.

IMPACT 3.10-3 Potential Risk to People or Structures Caused by Wildland Fire

Because Clay Pit SVRA contains little vegetation, large bare areas, and only one small structure, on-site risks associated with wildfire are relatively low. However, activities occurring at the SVRA could ignite a wildland fire (e.g., sparks from OHVs could ignite a fire in grassland) that could also spread to adjacent areas. Likewise, activities taking place at the adjacent shooting range, airport, and wildlife area could ignite a fire that could spread to the SVRA. Implementation of the General Plan would generate an increase in the number of visitors to the SVRA, thus increasing the risk of an accidental wildland fire, and would result in the construction of new structures, thus increasing the risk of potential damage to structures as a result of wildland fire.

Implementation of the General Plan would result in an additional point of egress from the SVRA by building a new entrance road while maintaining the existing entrance as a service entrance/exit. This would improve evacuation opportunities in the event of a wildland fire. In addition, OM Guideline 3.5 requires that OHMVR site management staff monitor and enforce the proper handling and use of fuels, and the proper use of spark arrestors on OHVs.

Because risks associated with wildland fires are relatively low, egress to the SVRA would be improved following implementation of the General Plan, and General Plan guidelines include requirements that would reduce the risk of starting accidental wildland fires, risks associated with wildland fires would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the

headquarters facilities. The discussion of the risks associated with transporting and handling hazardous materials (Impact 3.10-1) is also applicable to the headquarters facilities alone; therefore, no additional analysis related to the headquarters facilities is necessary. Likewise, the discussion of risk associated with wildland fire (Impact 3.10-3) is applicable to the headquarters facilities alone and no additional analysis is necessary.

The following analyses address potential impacts specific to the construction or operation of the headquarters facilities alone. These potential impacts are different from the potential impacts described above which could be caused by implementing the rest of the General Plan elements.

IMPACT 3.10-4 Potential Risks Associated with Locating Headquarters Facilities Near an Airport

Nighttime lighting at Clay Pit SVRA could pose a hazard risk associated with nighttime flights to and from the adjacent airport. However, nighttime security lighting at the headquarters building required for safety and security purposes would be minimal. In addition, DU Guideline 2.1 in the Clay Pit SVRA General Plan includes measures that would minimize potential light pollution. Exterior lighting would be restricted to entry and exit areas, light would be directed downward, and the height of parking lot lighting would be restricted. Sodium vapor lighting would not be permissible.

Because nighttime lighting at the headquarters facilities would be minimal, and implementation of DU Guideline 2.1 would reduce light pollution, this impact would be ***less than significant***.

Mitigation Measures: No mitigation is required.

Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant impacts related to hazards and hazardous materials. Constructing and operating the headquarters facilities would also not result in significant impacts related to hazards and hazardous materials.

3.10.5 Mitigation Measures

No significant impacts related to hazards and hazardous materials would result with implementation of the General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

3.11 Climate Change

This section presents details about the existing setting and regulatory setting related to climate change. It also presents an analysis of the climate change impacts that would result from implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities.

3.11.1 Existing Setting

This section describes setting information to supplement the setting information on climate provided in Section 2.3.1, "Physical Resources," of the General Plan. The General Plan describes how the topography of the area surrounding Clay Pit SVRA affects the area's climate, the general nature of greenhouse gases (GHGs), and the emission of GHGs from OHVs at the SVRA.

Butte County Greenhouse Gas Emissions

The *Butte County General Plan 2030 Draft EIR* included a GHG emissions inventory for 2006 of on-road vehicles, off-road vehicles and equipment, electricity, natural gas, agricultural vehicles and equipment, stationary sources, and landfills (Figure 3.11-1). Butte County emissions totaled 601,086 metric tons (MT) of carbon dioxide equivalent (CO_2e), or 0.11% of California's emissions. On-road vehicles (49%) and energy consumption (electricity and natural gas, 28%) accounted for the majority of emissions, similar to the State of California and other jurisdictions.

3.11.2 Regulatory Setting

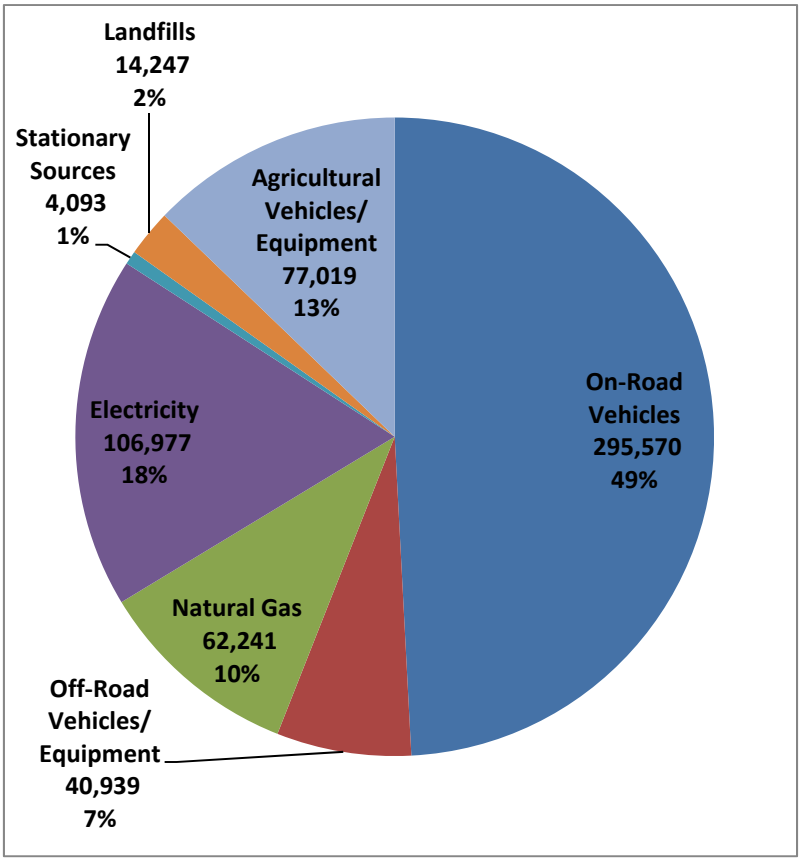
State Plans, Policies, Regulations, and Laws

Pavley Clean-Air Standards (Assembly Bill 1493)

On September 24, 2009, CARB adopted amendments to the "Pavley" regulations, which reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley regulations are expected to reduce GHG emissions from California passenger vehicles by about 22% in 2012 and about 30% in 2016, while improving fuel efficiency and reducing costs for motorists (CARB 2010). The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California.

Low Carbon Fuel Standard

CARB's Low Carbon Fuel Standard (LCFS) Program is part of the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), under the Governor's Executive Order S-01-07. The LCFS provides incentives for fuel manufacturers to reduce carbon dioxide (CO_2) in all types of fuels (e.g., gasoline, biodiesel, electricity, hydrogen) throughout the lifecycle of the fuel (i.e., from developing the fuel to transporting it to consumers). By 2020 the standard is expected to cut GHG emissions by 10%, replace 20% of the gasoline and diesel currently used with cleaner fuels,



Source: Butte County 2010; adapted by AECOM in 2011

Butte County 2006 Greenhouse Gas Emissions in MT of CO_2e **Figure 3.11-1**

bring20 times more alternative and hybrid vehicles to California roads, and quadruple the use of low-carbon biofuels (CARB 2011).

Regional and Local Plans, Policies, Regulations, and Ordinances

The Butte County General Plan 2030's Land Use, Circulation, and Public Facilities and Services element includes four overarching goals that relate to climate change:

- Reduce greenhouse gas emissions to 1990 levels by 2020.
- Promote green building, planning, and business.
- Promote a sustainable energy supply.
- Conserve energy and fuel resources by increasing energy efficiency.

Associated with each goal are several policies and actions that will help the County achieve its goals. While many of the policies and actions relate to residential and commercial development, a number are relevant to the Clay Pit SVRA General Plan:

- Greenhouse gas emission impacts from proposed projects shall be evaluated as required by the California Environmental Quality Act.

- New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.

- New development should use recycled-content construction materials.

- Continue to update the County program to replace County fleet vehicles with the lowest emission technology vehicles, wherever possible.

3.11.3 Thresholds of Significance

CARB and Butte County AQMD have not identified a significance threshold for analyzing GHG emissions associated with development projects such as the General Plan, or a methodology for analyzing impacts related to GHG emissions or global climate change. By adopting AB 32, the state has identified goals for reducing GHG emissions and the effect of GHG emissions on global climate change. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact on global climate change.

To meet AB 32 goals, California would need to generate less GHG emissions than current levels. However, for most projects no simple metric is available to determine whether a single project would substantially increase or decrease overall GHG emission levels. Although AB 32 did not amend CEQA, it identifies the myriad of environmental problems in California caused by global warming (California Health and Safety Code, Section 38501[a]). Senate Bill 97, however, did amend CEQA by directing the California Governor's Office of Planning and Research (OPR) to revise the State CEQA Guidelines to address the mitigation of GHGs or their consequences. As an interim step toward developing the required guidelines, OPR published a technical advisory in June 2008 (CAPCOA 2008). In this technical advisory, OPR recommends that the lead agencies under CEQA make a good-faith effort, based on available information, to estimate the quantity of GHG emissions that would be generated by a proposed project, including the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities, to determine whether the impacts would have the potential to result in a project or cumulative impact. OPR also recommends that the lead agencies mitigate GHG impacts when feasible mitigation is available. OPR has asked CARB technical staff to recommend a method for setting thresholds that will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. CARB has not yet completed this task.

In the absence of state-level regulatory standards and significance thresholds, some air quality management districts have adopted significance thresholds for projects and plans under their jurisdiction that are consistent with the goals of AB 32. As discussed above, Butte County AQMD has not adopted any thresholds at this time; however, as described above, climate change must be addressed in CEQA documents according to Appendix G of the State CEQA Guidelines. Appendix G

states that a proposed project would have significant environmental impacts related to climate change if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment or
- conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

In addition, Section 15064.7 of the State CEQA Guidelines states that "a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies." On October 26, 2010, the *Butte County General Plan 2030* was adopted. The EIR on the general plan included a discussion of significance thresholds for climate change and referred to CARB's scoping plan, which recommends a goal of reducing emissions by 15% compared to current levels. The EIR stated that implementing the General Plan would have a cumulatively significant impact on climate change if it would:

- result in GHG emissions that do not achieve a 15% reduction from current levels by 2020 or
- subject property and persons to additional risk of physical harm related to flooding, public health, wildfire risk, and other impacts resulting from climate change.

However, this approach is specific to the Butte County General Plan.

In the absence of other guidance or numerical threshold established by CARB or Butte County AQMD, this analysis will estimate the GHG emissions associated with the implementation of the Clay Pit SVRA General Plan and evaluate the net change in emissions against the adopted thresholds of significance from other jurisdictions, as follows:

- Facilities (i.e., stationary, continuous sources of GHG emissions) that generate greater than 25,000 MT CO_2e per year are mandated to report their GHG emissions to the CARB pursuant to AB 32 (CCR Subchapter 10, Article 2).
- The South Coast Air Quality Management District (SCAQMD) adopted a threshold of 10,000 MT CO_2e per year for stationary sources (SCAQMD 2010).
- SCAQMD proposed a significance screening level of 3,000 MT CO_2e per year for residential and commercial projects (SCAQMD 2010).
- The Bay Area Air Quality Management District (BAAQMD) adopted a significance threshold for operational emissions of 1,100 MT CO2e per year (BAAQMD 2011).

This information is presented for informational purposes only, and the lead agency does not intend to adopt any of the above-listed emission levels as a numeric threshold. Rather, the purpose is to put the project's GHG emissions in the appropriate statewide context to evaluate whether the project's contribution to the global impact of climate change would have a significant impact on the environment.

3.11.4 Environmental Evaluation

Evaluation Methodology

Neither CARB nor Butte County AQMD has formally adopted a recommended methodology for evaluating GHG emissions associated with new development. The construction and operational emissions associated with implementation of the Clay Pit SVRA General Plan have been quantified using the methods described below, pursuant to full disclosure and according to the State CEQA Guidelines that state, "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project."

Construction-related GHG emissions were estimated using methodology similar to that described for criteria air pollutants in Section 3.2, "Air Quality." URBEMIS2007 Version 9.2.4 also estimates CO_2 emissions associated with construction-related GHG sources such as off-road construction equipment, material delivery trucks, soil haul trucks, and construction worker vehicles.

Operational emissions of GHGs, including GHGs generated by direct and indirect sources, were evaluated according to the recommended methodologies from CARB and the California Climate Action Registry (CCAR). Direct sources include emissions such as vehicle trips, OHV use, and propane consumption. Direct emissions associated with area and on-road mobile sources were estimated using URBEMIS2007 and the CCAR General Reporting Protocol (CCAR 2009). Off-road OHV emissions were estimated using CARB's OFFROAD2007 model, which estimates emissions from off-road equipment including equipment used for agricultural work, construction, gardening, and recreation. Modeling was based on project-specific data (e.g., size and type of near-term improvements) and vehicle trip information from the traffic analysis prepared for the General Plan. Table 3.11-1 summarizes the modeling results.

Indirect sources could include off-site emissions occurring as a result of the project's use of electricity, sewage treatment, and water consumption. However, with the use of on-site wells and vault toilets, anticipated indirect energy needs for sewage treatment and water provision would be minimal, and no expansion of electrical, sewage treatment, or water treatment capacity or facilities would be anticipated. (See Section 3.9, "Public Services and Utilities," and Section 3.8, "Hydrology and Water Quality.") In addition, the emissions created by off-site electrical, sewage treatment, and water treatment facilities are evaluated under CEQA at the time that these types of

facilities are constructed or expanded. Therefore, GHG emissions from indirect sources were not quantified in this analysis.

Future improvements anticipated under the General Plan, such as the headquarters facilities, would increase electricity consumption; however, electricity use is expected to be minimal and no plug-ins would be available for recreational vehicles.

Sewage generated at the headquarters facilities would be disposed of using an individual septic system with a leach field on-site, which is expected to use very little energy. Additional vault toilets would generate additional sewage waste that would be trucked off-site and treated at the local water treatment facility. However, additional vehicle miles beyond those already generated to dispose of waste from the existing vault toilet are not anticipated. Furthermore, the amount of waste that would be generated would be minimal and would not require any upgrades to treatment facilities (see Section 3.9, "Public Services and Utilities").

Water consumption is anticipated for potable uses and dust control at Clay Pit SVRA. Water would come from one or more on-site wells or from municipal water currently provided to the adjacent Oroville Municipal Airport. The energy required to operate one or more wells would be minimal. If municipal water were used, energy and emissions would be required for water treatment and transport. In that case, indirect GHG emissions from water use could be estimated in subsequent CEQA review using the California Energy Commission's 2006 Refined Estimates of Water-Related Energy Use in California Report (CEC 2007), which estimates the energy use associated with the supply, conveyance, treatment, and distribution of water.

Indirect emissions associated with in-state energy production and generation of solid waste would be regulated under AB 32 directly at the source or facility that would handle these processes. The emissions associated with off-site facilities (e.g., for manufacturing plants, landfills) in California would be closely controlled, reported, capped, and traded under AB 32 and California CARB programs, as recommended by CARB's scoping plan (CARB 2008). Therefore, it is assumed that GHG emissions associated with these life-cycle stages would be consistent with AB 32 requirements.

General Plan Impact Analysis

IMPACT 3.11-1 Direct and Indirect Impacts Caused by Greenhouse Gas Emissions and Conflict with AB 32

The Clay Pit SVRA General Plan identifies long-range visions and goals and provides direction on future types of improvements, services, and programs.

Increased activity within the SVRA, as envisioned in the Clay Pit SVRA General Plan, would result in increased GHG emissions. The improvements, enhancements, management activities, and

increased attendance envisioned in the General Plan would occur over a period of 20 years or more. For this reason, future conditions were analyzed for the year 2030.

Operational area and mobile sources of GHGs for the General Plan would include emissions from the headquarters facilities, emissions from the OHV recreation facilities envisioned in the General Plan, and emissions from increased visitation and use of Clay Pit SVRA. Area source emissions of GHGs would come from propane combustion and fuel station emissions. On-road, mobile sources of GHG emissions would be from passenger vehicles, light-duty trucks, and motorcycles. Off-road, mobile sources of GHG emissions would be from recreational OHVs. Visitors to and staff of the SVRA would generate GHG emissions from vehicle trips to and from the project site. Operational emissions were quantified using the same assumptions as detailed in Section 3.2, "Air Quality."

Table 3.11-1 shows the estimated existing GHG emissions for Clay Pit SVRA and those associated with implementation of the Clay Pit SVRA General Plan. The majority of emissions would come from on-road mobile sources (e.g., trips to and from the SVRA). OHV emissions would account for approximately 34 MT CO_2e, or 1.9% of operational emissions. Construction emissions would account for approximately 695 MT CO_2e but are finite and may be amortized (i.e., averaged over the life of the plan) per the methodology recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD; 2009). It should be noted that state measures (i.e., the LCFS to reduce the carbon intensity of vehicle fuel and the Pavley clean-air standards to reduce GHG emission from passenger vehicles) exist that will lower the GHG emissions from mobile sources. Both measures apply to on-road transportation vehicles. The net emissions associated with on-road travel were estimated using EMFAC and CARB's Postprocessor, a tool that provides estimates of how the LCFS and Pavley measures will reduce GHG emissions. The Pavley state measure does not apply to off-road vehicles. However, LCFS does apply to off-road vehicles, including OHVs, and is estimated to reduce GHG emissions by 10%. When these state measures are considered, 2030 emissions are 22% lower than conditions would be without consideration of LCFS and Pavley measures.

The net increase in GHG emissions that would result from implementing the General Plan, including constructing and operating the headquarters facilities, would be approximately 636 MT CO_2e per year, which is well below all the currently adopted thresholds of other air districts in the state described above in Section 3.11.3, "Thresholds of Significance." The purpose of this analysis is to put the project's GHG emissions in the appropriate statewide context to evaluate whether the project's contribution to the global impact of climate change would have a significant impact on the environment. Thus, the project's GHG emissions fall well below the adopted thresholds discussed above and would not be considered substantial. Therefore, the GHG emissions that would result from implementing the General Plan, including constructing and operating the headquarters facilities, would not have a significant impact, either directly or indirectly, on the environment and would not conflict with California's GHG-reduction goals and strategies of AB 32. This impact would be ***less than significant.***

Mitigation Measures: No mitigation is required.

TABLE 3.11-1. SUMMARY OF MODELED GREENHOUSE GAS EMISSIONS (CO_2e) FROM IMPLEMENTATION OF THE CLAY PIT SVRA GENERAL PLAN[1]

Source of Emissions	MT CO_2e			
	2010 (Existing SVRA Emissions)	2030 (Clay Pit SVRA General Plan Emissions)	2030 with State Measures	Net Change[2]
Construction	–	695	695	695
Amortized construction emissions[3]	–	35	35	35
Operational emissions (metric tons per year)				
Area sources[4]	0	4	0	4
Visitor vehicles[5]	1,005[6]	732	168	564
OHV[6]	48	38	4	34
Maintenance Activities[7]	53	0	0	0
Total operational emissions	1,106	829	–	602
Total operational emissions including amortized construction emissions	1,106	861	–	636

Notes: AB = Assembly bill; MT CO2e = metric tons of carbon dioxide equivalent; OHV = off-highway vehicle; SMAQMD = Sacramento Metropolitan Air Quality Management District.

[1] The values presented do not include the full life cycle of the greenhouse gas (GHG) emissions. The GHG emissions from producing and transporting the construction and maintenance materials used under the Clay Pit SVRA General Plan, from solid waste that would be generated over the life of the project, or from end of life processes (e.g., recycling of materials) that would occur as an indirect result of the project. Estimating the GHG emissions associated with these processes would require analysis beyond the current state of the art in impact assessment and may lead to a false or misleading level of precision in reporting operational GHG emissions. Furthermore, indirect emissions associated with in-state energy production and generation of solid waste would be regulated under AB 32 directly at the source or facility that would handle these processes. The emissions associated with off-site facilities (e.g., for manufacturing plants, landfills) in California would be closely controlled, reported, capped, and traded under AB 32 and California CARB programs, as recommended by CARB's scoping plan (CARB 2008). Therefore, it is assumed that GHG emissions associated with these life-cycle stages would be consistent with AB 32 requirements.

[2] Net decreases are shown in parenthesis.

[3] Construction emissions were amortized over a 20-year period and added to operational emissions per the methodology recommended by SMAQMD (SMAQMD 2009).

[4] Area source emissions include emissions associated with propane combustion for space and water heating.

[5] Mobile source emissions estimated including California's Pavley clean-air standards and Low Carbon Fuel Standard.

[6] Off-road source emissions estimated including California's Low Carbon Fuel Standard.

[7] Existing maintenance operations would continue through 2030. No increase in maintenance activities is anticipated.

Source: Modeling performed by AECOM in 2011; Appendix C

Headquarters Facilities Impact Analysis

The impact analyses described above under "General Plan Impact Analysis" address potential impacts related to all aspects of the General Plan, including constructing and operating the headquarters facilities. No potential impacts associated with construction or operation of the headquarters facilities would be in addition to or otherwise different from the potential impacts described above; therefore, no additional analysis related to the headquarters facilities is necessary.

3.11.5 Summary of Significant Impacts

Adoption of the Clay Pit SVRA General Plan and implementation of resulting actions would not result in significant impacts on climate change. Construction and operation of the headquarters facilities would also not result in significant impacts on climate change.

3.11.6 Mitigation Measures

No significant impacts on climate change would result with implementation of the General Plan, including construction and operation of the headquarters facilities, and no mitigation is required.

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Chapter 4.0 – Cumulative Analysis

4.1 Introduction

State CEQA Guidelines Section 15130 requires that an EIR discuss the cumulative impacts of a project and determine whether the project's incremental effect is "cumulatively considerable." According to CEQA, incremental effects of an individual project are considerable when viewed in connection with the effects of past projects and the effects of probable future projects (PRC Section 21083[b][2]). "Cumulative impacts" refers to two or more individual effects that, when considered together, are considerable or compound or increase other environmental impacts (State CEQA Guidelines, Section 15355). Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time. 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 reasonably foreseeable projects that are closely related to the proposed project.

For purposes of this DEIR, the project would have a significant cumulative effect if:

- the cumulative effects of other past, current, and probable future projects without the project are not significant and the project's incremental impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or

- the cumulative effects of other past, current, and probable future projects without the project are already significant and the project contributes measurably to the effect.

A cumulative effect is "measurable" if the impact is noticeable or exceeds an established threshold of significance.

Section 15130(b) of the State CEQA Guidelines states:

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

4.2 Geographic Scope

The geographic area that could be affected by implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities, varies depending on the type of environmental resource being considered. Each section of this DEIR considers the specific geographic segment that is directly related to the individual topic addressed. For example, some

air quality impacts are analyzed based on regional-scale growth; thus, a regional perspective must be used to assess cumulative air quality impacts. Aesthetic impacts, given the localized impact area of concern, require consideration of both a smaller, more localized area that surrounds the immediate project area and a community scale that encompasses the larger community within which the SVRA is located. Table 4-1 presents the geographic scales associated with the different resources addressed in this DEIR analysis.

TABLE 4-1. GEOGRAPHIC SCOPE OF CUMULATIVE IMPACTS

Resource Issue	Geographic Scope of Impacts
Air Quality	Local (carbon monoxide, particulate matter, air toxics) and air basin/regional (ozone and particulate matter)
Biological Resources	Local
Cultural Resources	Archaeological survey area (local) Sacramento Valley (regional)
Geology and Soils	Local
Hazards and Hazardous Materials	Local and community
Hydrology and Water Quality	Local and regional areas within the same watershed and aquifer
Noise	Local
Transportation and Traffic	Regional and local
Public Services and Utilities	Regional and community
Visual Resources	Local and community
Climate Change	Global (GHGs)

Source: Data compiled by AECOM in 2011

4.3 Cumulative Forecasting Methodology

The State CEQA Guidelines allow for use of either the list method or the regional growth projections method to determine the scope of related projects for the cumulative impacts analysis (State CEQA Guidelines Section 15130). The list method involves preparing a list of past, present, and reasonably anticipated future projects that produce or would produce related or cumulative impacts, including those projects outside the control of the agency. The regional growth projections method involves preparing a summary of projections contained in an adopted general plan or a related planning document that is designed to evaluate regional or areawide conditions.

Both approaches were used in this DEIR because although the Clay Pit SVRA General Plan identifies specific land uses for a specific locality, it would be implemented in an area that has experienced and will continue to experience regional growth. This method allows for a thorough, project-based cumulative analysis within the defined plan area. However, certain issues that

extend far beyond the project vicinity (e.g., air quality, global climate change) also rely on projections.

4.3.1 Regional Growth Projections

Clay Pit SVRA is located within unincorporated Butte County. As determined through visitor surveys, visitors to the SVRA are primarily from the local area (less than 50 miles). Implementing the General Plan, including constructing and operating the headquarters facilities, would enhance recreational opportunities for the surrounding community. Butte County is expected to experience population growth as shown in Table 4-2.

TABLE 4-2. REGIONAL GROWTH PROJECTIONS

Jurisdiction	Year				Total Increase 2006–2030	Percent Change 2006-2030
	2006	2010	2020	2030		
Butte County	217,209	232,075	276,277	321,315	104,106	+48

Source: BCAG 2010

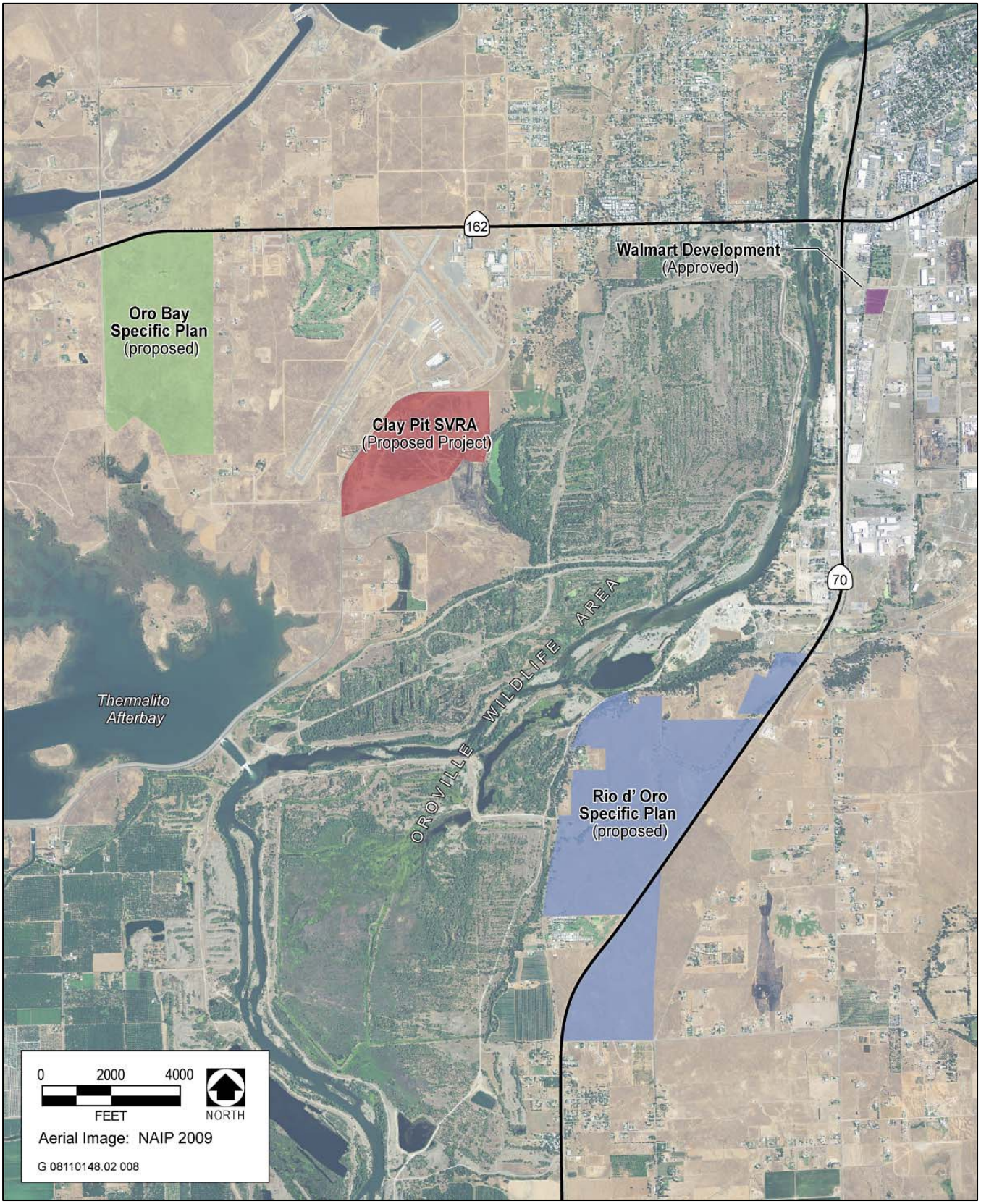
This type of regional and local growth has the potential to result in numerous environmental issues such as traffic congestion, air quality degradation, biological habitat loss, water quality degradation, and other environmental changes. This cumulative analysis considers the regional growth trends and the specific projects discussed below.

4.3.2 List of Cumulative Projects in the Vicinity

Information on past, present, and reasonably foreseeable future projects and on identified project impacts were gathered from Butte County, the City of Oroville, and the California Department of Transportation through review of available environmental documentation and consultation with planning staff (conducted January 2011). Table 4-3 shows a summary of project information and identified project impacts for these projects. Figure 4-1 shows the locations of the cumulative projects.

4.4 Cumulative Impact Analysis

As described in Section 4.2 and Table 4-1, the cumulative scenario under each environmental discipline differs depending on the potential area of effect. For example, the cumulative analysis for regional air quality considers impacts within the entire air basin because air quality impacts occur on a regional or basin-level scale, while the cumulative analysis for archaeology is limited to a local scale because the ground-disturbing activities would be local. The cumulative setting, limitations, and analysis for each discipline are discussed as appropriate below.



Source: Butte County 2011, City of Oroville 2011

Cumulative Project Locations **Figure 4-1**

TABLE 4-3. CUMULATIVE PROJECTS

Project Name	Project Description	Location	Potential Impacts	Status
City of Oroville				
Oro Bay Specific Plan	Creation of a new master planned housing community with neighborhood commercial uses	West of Oroville Municipal Airport, south of SR 162	Environmental documentation not yet complete	Proposed project pending
Walmart	Development of new Walmart store	Southeast corner of Cal Oak Road and Feather River Boulevard	Project issues included aesthetics, air quality, biological resources, hydrology and water quality, land use, noise, public services, transportation, and urban decay	Project approved and notice of determination filed December 15, 2010
Butte County				
Rio d'Oro Specific Plan	Development of 689-acre site with a mix of parks, open space, retail, housing, and public service uses	South of Oroville along SR 70, between Ophir Road and Palermo Road	Environmental documentation not yet complete	Proposed project pending

Note: SR = State Route.
Sources: CEQAnet 2011; City of Oroville 2011; Butte County 2011

4.4.1 Transportation and Traffic

Cumulative analysis of transportation and traffic must consider long-term forecasted conditions that account for background growth; future anticipated development; and implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities. This subsection includes an analysis of the projected traffic with implementation of the General Plan relative to a 2030 planning horizon. It provides an analysis of roadway conditions and intersection operations in 2030 that accounts for anticipated increases in traffic volumes in the project area in addition to vehicle trips generated by implementation of the General Plan.

Traffic Volume Forecasts

Traffic volume forecasts for a 2030 planning horizon use roadway volume projections presented in the *Butte County General Plan 2030* and *City of* O*roville 2030 General Plan* Circulation Elements. Forecasts of roadway volume and existing traffic counts were used to identify a corresponding annual growth percentage to develop forecasts for the volume of turning movements at the study intersections. Where forecasts for roadway volume differ in the two circulation elements, an average value was used. Resulting traffic forecasts generally represent an average annual increase of 3.5 percent over the 20-year planning horizon. In addition, intersection-specific forecasts

consider development of adjacent land that is tributary to each of the study intersections. For example, future development of vacant land at the Oroville Municipal Airport will result in increased use of Airport Park and Challenger Avenue, thereby directly affecting traffic projections at the Larkin Road study intersections with these streets. This information has been used to identify projected increases in peak-hour traffic volumes during weekdays. For the Saturday analysis, the existing relationship between weekday and Saturday traffic volumes was used to forecast Saturday volumes for the 2030 planning horizon.

Identified Roadway Improvements

Planning documents that support projected long-term traffic conditions have identified that roadway improvements are needed to SR 162 and the SR 162/Larkin Road intersection. However, initial roadway and intersection LOS calculations for the 2030 planning horizon do not assume construction of these improvements. The initial calculations presented were determined by considering existing circulation patterns. The improvement needs identified are summarized below for informational purposes:

- The *City of Oroville 2030 General Plan* Circulation Element indicates that widening SR 162 to four lanes from west of Larkin Road to SR 70 is required to maintain satisfactory roadway and intersection operations for the 2030 planning horizon. Identified improvements at the SR 162/Larkin Road intersection consist of adding traffic signals and widening the intersection to provide the following geometrics:

  - Eastbound and westbound approaches—one left-turn, two through, and one right-turn lane.

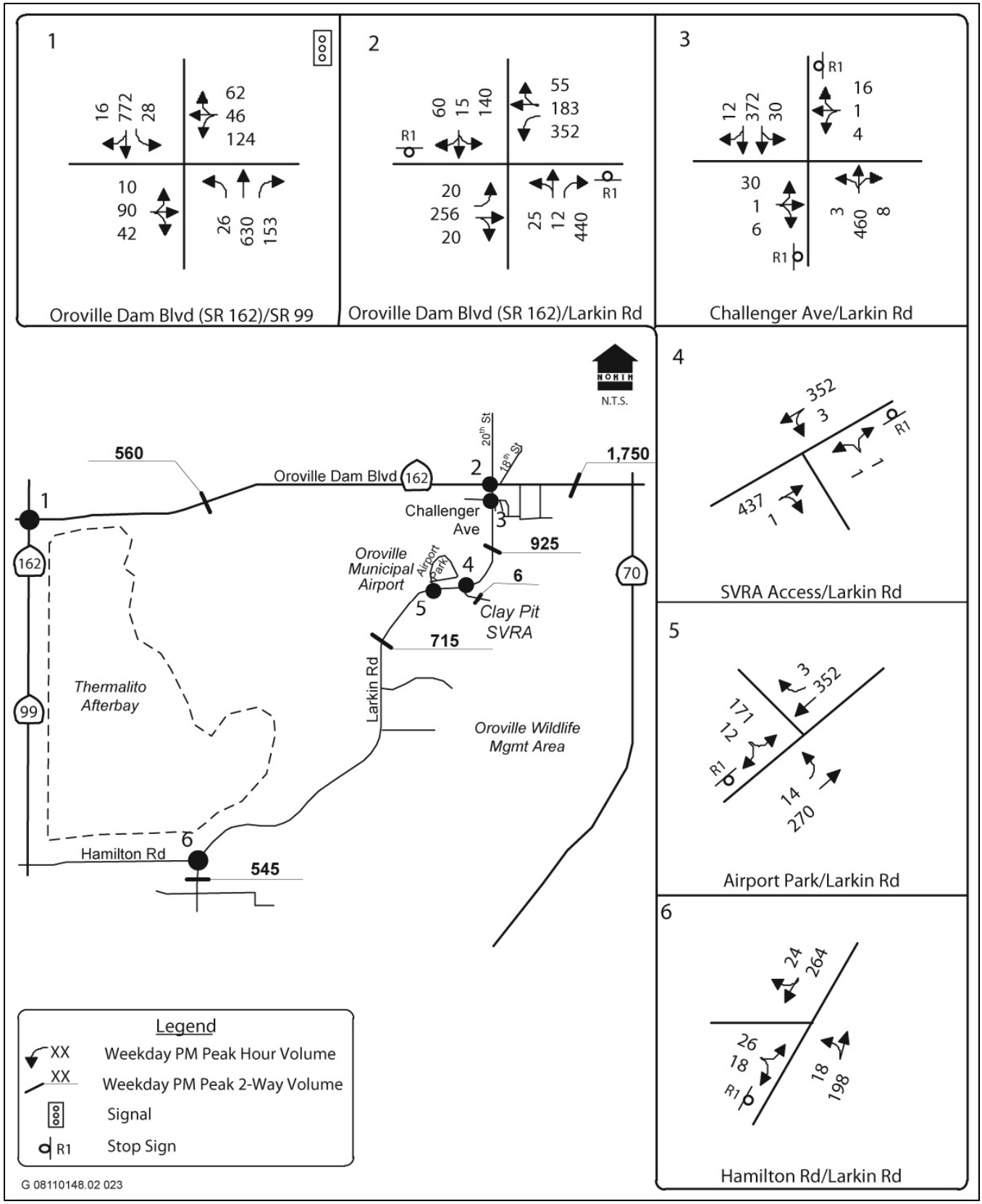
  - Northbound and southbound approaches—one left-turn, one through, and one right-turn lane.

- The *Butte County General Plan 2030* Circulation Element indicates that widening SR 162 to four lanes from Larkin Road to SR 70 is required to maintain acceptable LOS for the 2030 planning horizon. Unsatisfactory LOS E operations are projected without this improvement.

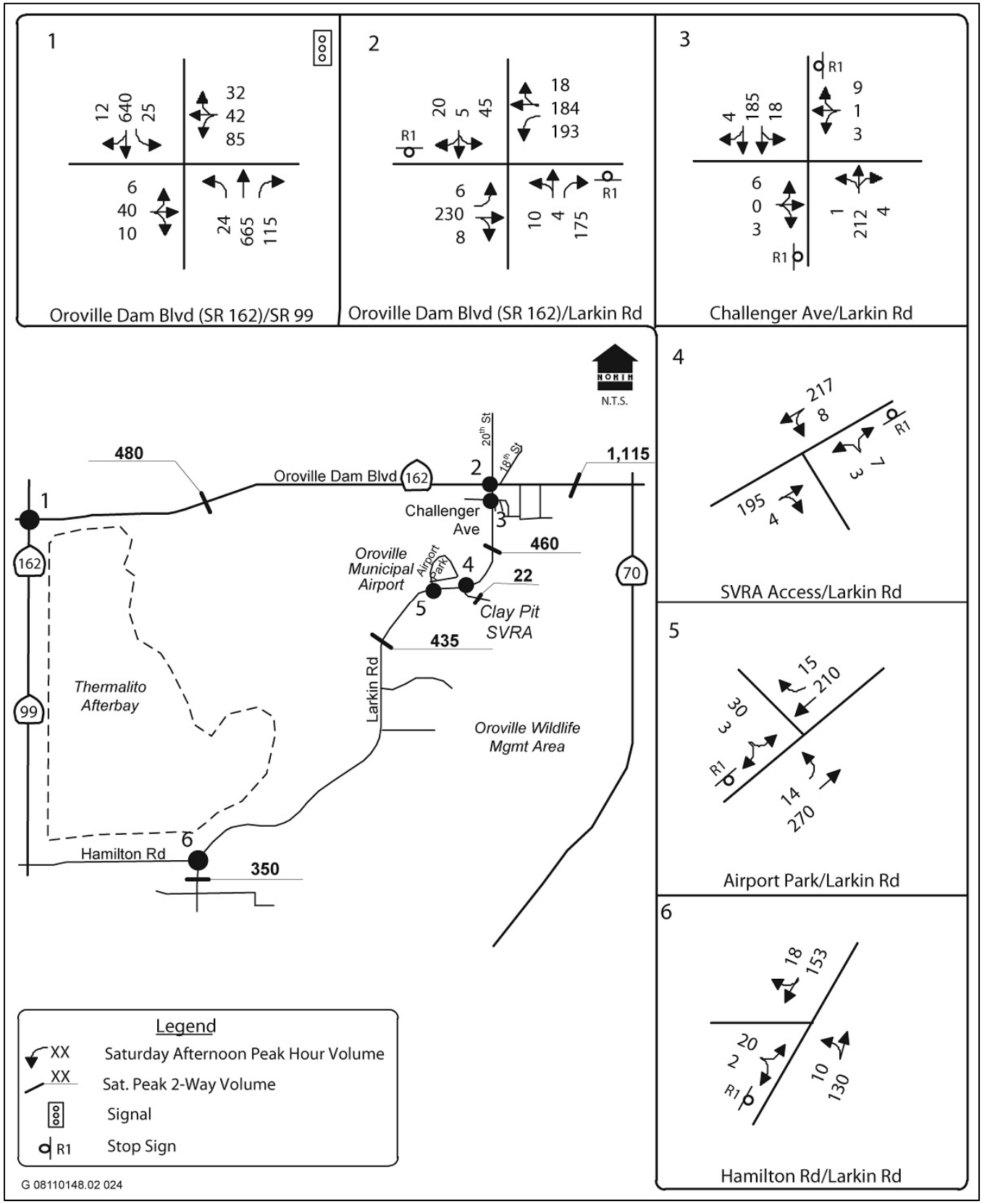
- Caltrans's SR 162 TCR indicates that the 20-year concept for SR 162 is a two-lane conventional highway from the Glen County line to Wilbur Road, east of SR 99. East of Wilbur Road to SR 70, the 20-year concept is a four-lane conventional highway with a concept LOS D.

Analysis of 2030 Plus Project Conditions

The nearest cumulative project that could combine with traffic accessing Clay Pit SVRA and therefore may have an influence on traffic operations near the SVRA is the Oro Bay Specific Plan. This project is located approximately 0.75 mile west of the SVRA (Figure 4-1). Figures 4-2 and 4-3



Year 2030 Plus Project Weekday PM Peak Hour Traffic Volumes and Lane Configurations Figure 4-2



Year 2030 Plus Project Saturday Afternoon Peak Hour Traffic Volumes and Lane Configurations **Figure 4-3**

display the projected 2030 traffic volumes with and without traffic associated with implementing the Clay Pit SVRA General Plan.

Projected intersection and roadway LOS are presented in Tables 4-4 and 4-5. Under Year 2030 "No Project" Conditions, satisfactory intersection operations are projected at all study locations with the exception of the SR 162/Larkin Road intersection (Table 4-4). Unsatisfactory LOS F delays are projected at the southbound approach during the weekday p.m. peak hour and forecasted intersection volumes are projected to warrant traffic signals at the intersection. These projections are consistent with the improvement needs identified in the City of Oroville Circulation Element. Implementing those improvements are projected to provide satisfactory LOS C intersection operations.

As identified for near-term conditions, traffic generated by implementing the Clay Pit SVRA General Plan is projected to have a minor effect on operations at each of the study intersections during either the weekday or Saturday peak hours under year 2030 traffic conditions. Satisfactory LOS D or better operations are projected to continue at all locations with the exception of the southbound approach at the SR 162/Larkin Road intersection, as discussed above. Project-generated traffic would not significantly contribute to delays at this intersection and improvements identified for the Year 2030 "No Project" Condition would also result in satisfactory LOS C operations with implementation of the General Plan.

Under Year 2030 "No Project" Conditions, satisfactory roadway operations are projected on all study segments with the exception of SR 162 east of Larkin Road (Table 4-5). Forecasted volumes on this highway segment are projected to be at the LOS D–E threshold. Widening of the highway to provide four lanes is projected to be required and would provide satisfactory LOS C operation. These projections are consistent with improvement needs as identified in the Butte County and City of Oroville general plans' Circulation Elements and Caltrans's TCR for SR 162.

Traffic generated from implementation of the Clay Pit SVRA General Plan is projected to have no measurable effect on study area roadway operations under 2030 conditions. Roadway volume-to-capacity ratios would remain unchanged with the addition of project-generated traffic to each of the roadway segments (Table 4-5). Improvements to SR 162 as identified for the Year 2030 "No Project" condition would also provide satisfactory operating LOS with implementation of the General Plan.

In summary, with increased visitation to Clay Pit SVRA, traffic using the nearby roadways that provide access to the site, and traffic using the regional transportation corridors would increase, as described in Section 3.1, "Transportation and Traffic," of this DEIR. However, as discussed above, the local roadways would have ample capacity in the year 2030 to accommodate additional traffic volume before exceeding acceptable LOS C conditions. Therefore, no significant cumulative impacts on roadway capacity are projected near the project. In addition, because the SVRA would be visited mostly on weekends, the increase in weekend traffic would not add significantly to the

TABLE 4-4. YEAR 2030 INTERSECTION LEVELS OF SERVICE

Location	Control	2030 No Project				2030 plus Project					
		Weekday PM Peak Hour		Saturday Afternoon		Weekday PM Peak Hour			Saturday Afternoon		
		LOS	Average Delay[1]	LOS	Average Delay[1]	LOS	Delay[1]	Increase In Delay[1]	LOS	Delay[1]	Increase In Delay[1]
SR 162/SR 99	Signal	C	25.0	B	16.9	C	25.0	0.0	B	16.9	0.0
SR 162/Larkin Road											
WB left turn	NB, SB stop	A	9.1	A	8.3	A	9.1	0.0	A	8.3	0.0
EB left turn		A	7.8	A	7.7	A	7.8	0.0	A	7.7	0.0
SB approach		F	>300.0	D	31.4	F	>300.0	NA	D	32.4	1.0
NB approach		C	21.6	B	11.8	C	21.8	0.2	B	11.9	0.1
Challenger Ave/Larkin Road											
NB left turn	EB, WB stop	A	8.1	A	7.6	A	8.1	0.0	A	7.6	0.0
SB left turn		A	8.5	A	7.7	A	8.5	0.0	A	7.7	0.0
Eastbound approach		C	21.7	B	11.2	C	21.8	0.1	B	11.3	0.1
Westbound approach		B	12.9	B	10.1	B	12.9	0.0	B	10.2	0.1
OHV Access/Larkin Road											
SB left turn	WB stop	A	8.3	A	7.7	A	0.0	0.0	A	0.0	0.0
WB approach		B	13.3	A	10.0	A	0.0	0.0	A	0.0	0.0
Airport Park/Larkin Road											
SB left turn	EB stop	-	--	-	--	A	7.8	7.8	A	7.6	7.6
WB approach		-	--	-	--	B	12.7	12.7	B	10.1	10.1
NB left turn		A	8.1	A	7.7	A	8.1	0.0	A	7.7	0.0
EB approach		C	20.5	B	11.2	D	26.0	5.5	B	12.2	1.0
Hamilton Road/Larkin Road											
NB left turn	EB stop	A	7.9	A	7.6	A	7.9	0.0	A	7.6	0.0
EB approach		B	11.7	B	10.5	B	11.7	0.0	B	10.5	0.0

Notes: EB = eastbound; LOS = levels of service; NB = northbound; OHV = off-highway vehicle; SB = southbound; SR = State Route; WB = westbound.
[1] Delays measured in seconds.
Source: Data provided by KD Anderson & Associates in 2011.

TABLE 4-5. YEAR 2030 ROADWAY LEVELS OF SERVICE

Location	Number of Lanes	LOS Standard	2030 No Project						2030 plus Project							
			Weekday			Saturday			Weekday				Saturday			
			Peak Hour Volume	V/C	LOS	Peak Hour Volume	V/C	LOS	Volume	V/C	LOS	Increase in V/C	Volume	V/C	LOS	Increase in V/C
SR 162																
West of Larkin Road	2	D	560	0.30	A-C	480	0.26	A-C	561	0.30	A-C	0.00	482	0.26	A-C	0.00
East of Larkin Road	2	D	1750	0.94	D-E	1115	0.60	D	1753	0.94	D-E	0.00	1122	0.60	D	0.00
Larkin Road																
South of Challenger Ave.	3	D	925	0.50	A-C	460	0.25	A-C	929	0.50	A-C	0.00	469	0.25	A-C	0.00
South of Airport Park	2	D	715	0.38	A-C	435	0.23	A-C	717	0.38	A-C	0.00	440	0.23	A-C	0.00
South of Hamilton Road	2	C	545	0.29	A-C	350	0.19	A-C	547	0.29	A-C	0.00	354	0.19	A-C	0.00

Notes: LOS = levels of service; SR = State Route; V/C = volume-to-capacity ratio.
Source: Data provided by KD Anderson & Associates in 2011.

weekday traffic in the area resulting from project development, including the Oro Bay Specific Plan project. Therefore, implementing the General Plan, including constructing and operating the headquarters facilities, would not result in a significant cumulative impact or contribute considerably to a significant cumulative impact on traffic or transportation conditions.

4.4.2 Air Quality

Butte County AQMD's Air Quality Handbook (Section 4) requires that a cumulative air quality impact analysis be performed to evaluate the combined air quality impacts of this project and impacts from existing and proposed future development within 1 mile of the project site. Butte County AQMD recommends that projects determine their cumulative air quality impacts by evaluating if the proposed project would be consistent with the Air Quality Attainment Plan (AQAP), State Implementation Plan (SIP), or exceed Butte County AQMD thresholds even with mitigation. Butte County AQMD has developed the following criteria to analyze if the proposed project is consistent with the AQAP:

- The project does not require a change in the existing land use designation, and projected emissions of ROG and NO_X from the proposed project are equal to or less than the emissions anticipated for the site if developed under the existing land use designations.
- The project does not exceed the "project alone" significance criteria.
- The lead agency for the project requires the project to implement any applicable emission reduction measures contained in and/or derived from the AQAP.
- The project complies with all applicable district rules and regulations.

As discussed in Section 3.2, "Air Quality," the criteria pollutants and TAC impacts associated with construction of the Clay Pit SVRA General Plan would be temporary, would be intermittent, and would cease following completion of the proposed structures/site modifications. In addition, these impacts were determined to be less than significant. Due to the short-term nature of these impacts, it is not anticipated that implementing the General Plan, including constructing and operating the headquarters facilities, would cause any cumulative construction impacts. Therefore, implementing the General Plan would not cause a cumulatively considerable increase in precursor emissions for a regional nonattainment pollutant, and this impact would be less than significant.

Increased activity within Clay Pit SVRA, as envisioned by the General Plan, would result in increased air emissions. Impacts resulting from implementation of the General Plan would occur over many years because the Clay Pit SVRA General Plan provides guidance and vision for a period of 20 years or more. For this reason, future conditions were analyzed for the year 2030. This

future analysis date is appropriate and conservative, as it accounts for projected increases in traffic on local roadways.

Although implementing the General Plan, including constructing and operating the headquarters facilities, would not require a change in land use designations, would not generate significant long-term increases in ROG and NO_X emissions, and would comply with all applicable Butte County AQMD rules and regulations, regional PM_{10} emissions would exceed Butte County AQMD's Level B threshold under long-term conditions, as shown in Table 4-6.

TABLE 4-6. LONG-TERM OPERATIONAL AIR EMISSIONS DURING A PEAK WEEKEND AT GENERAL PLAN BUILDOUT

Source	Emissions (lbs/day)[1]				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Area Sources					
Subtotal Area Sources	*0.02*	*0.02*	*0.02*	*0.00*	*0.00*
Mobile Sources					
Visitor Vehicles[2]	0.56	1.18	11.00	42.16	4.87
OHVs	22.77	0.94	116.76	85.86	8.42
Subtotal Mobile Sources	*23.33*	*2.12*	*127.76*	*128.02*	*13.29*
Site Maintenance Activities					
Subtotal Site Maintenance	*0.51*	*3.02*	*3.50*	*2.97*	*0.71*
Total emissions	**23.86**	**5.16**	**131.28**	**131.0**	**14.00**
Butte County AQMD significance threshold[3]	25	25	–	80	–
Exceeds threshold?	***No***	***No***		***Yes***	

Notes: AQMD = Air Quality Management District; lbs/day = pounds per day; CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; ROG = reactive organic gases; SO_X = oxides of sulfur.
The total emissions estimates shown are the highest values that would occur during the year. Totals may not add up to individual values because the highest emissions for a pollutant from both area and mobile sources may not occur in the same season.
Refer to Appendices B and C for detailed assumptions and modeling output files.

[1] Emissions modeled for annual conditions for Butte County using the URBEMIS2007 (Version 9.2.4), EMFAC2007, and OFFROAD2007 computer models.

[2] Visitor vehicle PM_{10} emissions from use on unpaved surfaces were calculated separately from URBEMIS2007 (Version 9.2.4) to provide a more precise estimate of visitor vehicle VMT onsite on unpaved surfaces. Assumes an average trip length of 50 miles since, based on existing data 80% of visitors reside within 50 miles of Clay Pit SVRA.

[3] Corresponds to Butte County AQMD's Level B threshold.

Source: Data modeled by AECOM in 2011

Considering the nonattainment status of the SVAB with respect to PM_{10}, operational emissions associated with implementing the General Plan could be considered a cumulatively considerable

contribution to an existing air quality impact. However, the General Plan identifies and requires BMPs for operation that are consistent with Butte County AQMD's requirements for mitigation of any project that emits greater than 80 lbs/day (Level B) but less than 137 lbs/day (Level C). Refer to Table 3.2-4 for further clarification regarding Butte County AQMD's tiered thresholds. Because the OHMVR Division would implement emission reduction measures and would comply with Butte County AQMD rules and regulations, and because emissions would not exceed Level C thresholds for PM_{10} (or any criteria pollutant), implementing the General Plan would not be considered inconsistent with the Butte County AQMD AQAP. As a result, cumulative impacts related to long-term criteria pollutant emissions, including PM_{10}, would be less than significant.

Furthermore, CARB identifies the 2006 Attainment Plan as the local air quality plan applicable to emission controls of the ozone precursors NO_X and ROG. Although the attainment plan doesn't address Clay Pit SVRA specifically, it does include increased emissions from off-road recreational vehicles as part of its future emissions inventory for NO_X and ROG through 2020. According to the plan's emission inventory, emissions of ROG from off-road recreational vehicles are expected to increase from 1.775 tons per day (TPD) in 2005 to 2.427 TPD in 2020[1], while emissions of NO_X are expected to increase from 0.106 TPD in 2005 to 0.147 TPD in 2020. These emission increases demonstrate that the 2006 Attainment Plan accommodates increased emissions from OHVs, making implementation of the General Plan consistent with the local air quality plan. Therefore, implementing the General Plan, including constructing and operating the headquarters facilities, would not make a considerable contribution to a cumulatively significant impact to air quality.

4.4.3 Noise

In Clay Pit SVRA, the primary noise sources include vehicle traffic, aircraft overflights, and shooting range activities. Ambient noise levels in the area are influenced by traffic on major roads such as Larkin Road and SR 162. Because noise can travel only a limited distance, noise is a local rather than a regional issue; thus, the use of the cumulative project list is appropriate for the cumulative noise analysis. No development projects are close enough to Clay Pit SVRA to cause a significant cumulative noise impact. The nearest cumulative project is the Oro Bay Specific Plan project, located approximately 0.75 mile to the west, which is too far away for noise from that project to combine with noise from implementation of the Clay Pit SVRA General Plan. In addition, as described in Impact 3.3-1, "Increased Off-Site Noise Levels Related to OHV Use," ambient noise levels would increase by only 1.5 dBA, a minimal amount well below the threshold of 5 dBA.

Implementing the General Plan, including constructing and operating the headquarters facilities, would increase traffic in the local area because the SVRA would have more visitors. Other projects in the area would also add traffic to the roadways. However, the majority of traffic generated by Clay Pit SVRA is during weekends and would not overlap or combine with the typical traffic

[1] The updated attainment plan is expected to project NO_X and ROG emissions beyond 2020 and include emissions for 2030.

generated by other projects during weekday peak hours, thus minimizing the potential for cumulative noise impacts caused by increased traffic volumes. Therefore, implementing the General Plan, including constructing and operating the headquarters facilities, would not make a considerable contribution to a cumulatively significant noise impact.

4.4.4 Visual Resources

Visual resources can be either localized resources or of regional concern, depending on the overall aesthetic environment. Because Clay Pit SVRA is not visible at a large or regional scale, and because it does not have visually dominant features, the cumulative visual environment is the local area.

Other local projects on the cumulative project list are commercial and residential projects that would also alter the existing visual environment. The two specific plan projects planned in the area would construct large mixed-use developments to the west and southeast of the SVRA. These projects would extend the urban aesthetic to areas previously used for agriculture. However, these projects are not in the same viewshed as Clay Pit SVRA and therefore would not combine visually with improvements planned at the SVRA to alter the existing aesthetic environment. Implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities, would add new structures to the property, but the majority of the area would continue to be open area for OHV use and recreation. These new structures and other enhancements would not substantially change the overall existing visual character of the area. Therefore, implementing the General Plan, including constructing and operating the headquarters facilities, would not make a considerable contribution to a cumulatively significant impact on visual resources.

4.4.5 Biological Resources

The geographic scope for biological resources cannot be defined by jurisdictional or other political boundaries, because sensitive habitats and species can have widespread ranges and can vary for individual species. For this reason, the analysis of cumulative impacts on biological resources includes consideration of the local habitat ranges for sensitive species.

Implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities, is not anticipated to have a significant impact on biological resources in the region. Habitat that could support special-status plant species exists on the project site in the cattail vegetation community and in remnant vernal pool grassland that occurs on the terrace along Larkin Road. Suitable habitat for two federally listed vernal pool branchiopod species exists in the vernal pool habitat at Clay Pit SVRA. The existing activities at the SVRA would continue and opportunities for recreation would be enhanced under the General Plan. Goals and guidelines in the General Plan would serve to protect and conserve the natural resources on-site and prevent degradation beyond the existing baseline conditions. As described in Section 3.5, “Biological

Resources," the natural vegetation communities that exist at the SVRA are locally and regionally common. The goals and guidelines within the General Plan would require appropriate planning, restrictions, and stewardship to protect and enhance on-site biological resources. Any sensitive biological resources that may be affected by implementation of any aspect of the General Plan would be protected, restored, or enhanced on a no net loss basis and in compliance with all permit conditions (if applicable). Therefore, implementing the General Plan, including constructing and operating the headquarters facilities, would not cause a considerable contribution to a cumulatively significant impact on biological resources.

4.4.6 Cultural Resources

Cultural resources are known to exist throughout northern California and are not limited to any specific locale. For this reason, the geographic scope for considering cumulative impacts on cultural resources generally includes the perspective of the resources that are physically present within the project area and within the broader regional geography associated with the Sacramento Valley.

As discussed in Section 3.6, "Cultural Resources," the areas currently proposed for disturbance within Clay Pit SVRA are almost entirely located in vacant, unvegetated, and previously disturbed areas, and no cultural resources were found in the areas proposed for facilities during surveys. In addition, the site has been used for OHV recreation for many years. Because the potential is low that cultural resources are located in areas that would likely be used for future development under the General Plan, including construction and operation of the headquarters facilities, and policies would be in place to protect and preserve any resources that could be discovered during construction, no significant impacts on cultural resources are anticipated. Growth and development throughout the region, including the projects on the cumulative projects list and development that may be approved to accommodate the expanding regional population, would potentially result in a significant cumulative impact on sensitive cultural resources. However, because implementing the General Plan, including constructing and operating the headquarters facilities, is not expected to affect significant cultural resources, and because appropriate plans are in place if cultural resources were to be discovered, implementing the General Plan would not create a considerable contribution to a cumulatively significant impact on cultural resources.

4.4.7 Geology and Soils

Although geology is a regional topic with geologic features spanning large areas, impacts on soils and geology are typically site specific. Constructing a project in extreme geologic conditions (e.g., steep slopes) may put surrounding areas at risk; however, these risks are generally avoided by required conformance with the California Building Standards Code and other applicable regulations. In addition, no extreme geologic features are on or near the project site. For these reasons, the regional area is not considered and instead the analysis focuses on the areas of those projects in the cumulative projects list.

The potential soil and geology impacts from implementing the General Plan, including constructing and operating the headquarters facilities, would affect only on-site development, and no major excavations or substantial ground disturbance is proposed. The project is not located next to any projects that would significantly affect soil stability or geologic conditions. In addition, all development projects would be required to adhere to applicable regulatory guidelines for geologic, seismic, and soil safety. Thus, implementing the General Plan and the other projects included on the cumulative projects list would not create unstable geologic conditions in the surrounding area. Implementing the General Plan, including constructing and operating the headquarters facilities, would not cause a considerable contribution to a cumulatively significant impact on geology and soils.

4.4.8 Hydrology and Water Quality

Water quality and hydrology impacts can have widespread effects throughout an entire watershed, hydrologic unit, and additional downstream locations. For this reason, the analysis of potential cumulative impacts on water quality and hydrology uses the cumulative project list and regional growth projections.

With anticipated regional growth in Butte County, new urban development is likely to occur to support the increase in population, creating new impervious surfaces, runoff, erosion potential, and pollutant loads. Similar to most other development, new facilities at Clay Pit SVRA would also create increased impervious surfaces and result in additional non-point-source runoff and pollution. In the pit, runoff flows into depressions caused by vehicles, creating drainage connections between vernal pools along the riding trails. Eventually the water drains to the main drainage canal (State Parks 2011a). Sediment transported during precipitation events would decrease water quality within the various drainages (particularly the main drainage channel) and vernal pools within the SVRA and off-site in the abandoned oxbow of the Feather River, located along the east property boundary. As described in Section 3.8, "Hydrology and Water Quality," future development and improvements within the SVRA would not cause substantial adverse effects on hydrology and water quality if the direction is followed from the *OHV BMP Manual for Erosion and Sediment Control* (State Parks 2007), the OHMVR Division's *2008 Soil Conservation Standard and Guidelines* (State Parks 2008), and Guidelines DMA 1.1 through 1.3 and DMA 2.1 through 2.3 of the Clay Pit SVRA General Plan. This direction would serve to maintain soil stability and reduce the potential for erosion and sedimentation. All development projects would be required to adhere to all applicable permitting requirements regarding water quality, such as preparation and implementation of a storm water pollution prevention plan, thus minimizing the potential for water quality impacts. For these reasons, implementation of the General Plan, including construction and operation of the headquarters facilities, would not cause a considerable contribution to a cumulatively significant impact on water quality.

4.4.9 Public Services and Utilities

The cumulative analysis of public services and utilities is typically based on the local community being served and the potential impacts to that provision of service. Implementing the General Plan, including constructing and operating the headquarters facilities, would enhance the existing uses at Clay Pit SVRA and may slightly increase the need for public services such as emergency medical services and utilities such as electrical transmission. However, as discussed in Section 3.9, "Public Services and Utilities," the increase in demand would be minor and would not affect the ability of local service providers to adequately serve the rest of the community. Existing emergency service responders and utility capacities are expected to be sufficient to meet any increase in demand for emergency services at the SVRA. In addition, projects located in other jurisdictions may be served by different providers or agencies. For these reasons, implementing the General Plan, including constructing and operating the headquarters facilities, would not cause a considerable contribution to a cumulatively significant impact on public services and utilities.

4.4.10 Hazardous Materials

While some hazardous conditions are site specific, other types of hazards, such as release of hazardous materials, could contaminate an area beyond a project's boundary. Hazardous conditions can be generated not just when a project is recently constructed or operated, but after a project has been in operation for a long time (e.g., gas stations, dry cleaners). Because large areas could be affected by hazardous conditions, the cumulative study area considered for this topic includes a 1-mile radius surrounding Clay Pit SVRA. As described in Section 3.10, "Hazards and Hazardous Materials," storage and use of hazardous materials such as gasoline and oil on-site would occur. However, the new fueling station would be required to meet all regulatory standards for safe containment, storage, and handling.

No hazardous materials release sites are documented within the SVRA. Seven known release sites for hazardous materials are within 1 mile of the SVRA, and all are located north of the site on the Oroville Municipal Airport property. The status of three of the sites is "completed-closed" (with a formal closure decision document having been issued for these sites); three sites, located 0.8 mile north of the SVRA, are classified "open-site assessment" (and are under investigation); and one site, located approximately 900 feet north of the SVRA, is classified "open-inactive" (indicating that no regulatory oversight activities are being conducted by the lead agency). Contamination at the three sites classified "open-assessment" stems from former military activities (Army, Air Force) on the site, and contamination consists of lead in the soils and other unspecified materials. Contamination at the single site located 900 feet north of the SVRA stems from diesel contamination in surface water.

The site of the Oro Bay Specific Plan project is located within 0.75 mile of Clay Pit SVRA. Development of the mixed-use residential and commercial development would likely require using typical hazardous materials during construction and operation. This project would also be

required to meet and comply with all regulatory safety requirements for hazardous materials to minimize any potential for release or contamination. With adherence to all requirements, implementing the General Plan, including constructing and operating the headquarters facilities, would not cause a considerable contribution to a cumulatively significant impact on hazardous materials.

4.4.11 Climate Change

Under CEQA, GHG impacts on global climate change are inherently cumulative. GHGs caused by projects should be evaluated through cumulative impacts because GHG emissions from multiple projects could result in a cumulative impact with respect to global climate change. This is the approach that was taken in Section 3.11, "Climate Change." As detailed in Section 3.11, the project's GHG emissions fall well below all adopted levels above which the emissions could be considered substantial. It is concluded that GHG emissions that would result from implementation of the General Plan would not have a significant impact, either directly or indirectly, on the environment, and would not conflict with California's GHG-reduction goals and strategies of Assembly Bill 32.

In addition, the General Plan contains policies that would serve to further reduce projected GHG emissions, such as incorporating sustainability into Clay Pit SVRA development, operations, and maintenance; supporting electric OHV use; and encouraging visitors to the SVRA and OHV recreationists to protect natural resources and incorporate sustainable practices. Also, by providing improvements to the recreational experience, more local visitors are likely to use the SVRA, which could minimize the distance traveled to access other OHV recreation areas.

Implementing the Clay Pit SVRA General Plan, including constructing and operating the headquarters facilities, would not generate GHG emissions that could be considered substantial and may serve to reduce projected emissions; therefore, implementing the General Plan, including constructing and operating the headquarters facilities, would not cause a considerable contribution to a cumulatively significant impact from GHG emissions.

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Chapter 5.0 – Other CEQA-Required Analysis

5.1 Environmental Effects Eliminated from Further Analysis

The following topics were eliminated from full analysis in this DEIR because no potential exists for significant environmental effects resulting from implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, related to these issues. A brief reason for elimination is provided below for each issue area.

5.1.1 Agricultural Resources

As described in Chapter 2, "Project Description," no farmland exists within Clay Pit SVRA. In addition, the project site is not zoned for agricultural uses. Implementation of improvements to existing recreational opportunities at the SVRA would not involve changing or converting any existing agricultural environment in the project area.

5.1.2 Land Use

The General Plan does not include any changes in land use. As described in Chapter 2, no residences currently exist within the SVRA. The project site does not currently include any developed land uses. In addition, the Butte County General Plan identifies the project property for resource conservation uses, which allows for recreational uses (Butte County 2010:54). Implementation of improvements to existing recreational opportunities at Clay Pit SVRA would not involve physically dividing an established community or conflict with any applicable land use plan.

5.1.3 Minerals

The *Agreement for Transfer to Department of Parks and Recreation of the Impervious Materials Borrow Area at Oroville Division*, signed on January 22, 1981, gave State Parks the right to plan, develop, and administer real and personal property for the site as an OHV park, and the site was designated as an SVRA. DWR retains the right to inundate the site or remove additional borrow material if necessary for the Oroville Division of the State Water Project (Oroville Dam); however, to date, DWR has not exercised these rights or expressed an interest in exercising these rights. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would not prevent the future use of the site for borrow material or otherwise affect mineral resources.

5.1.4 Population and Housing

As described in Chapter 2, no residence currently exists within Clay Pit SVRA. In addition, no seasonal camp hosts live on-site. No new housing would be constructed or affected on-site or off-

site, and improvements to existing recreational opportunities at the SVRA would not generate substantial population growth in the area or require additional housing demand.

5.1.5 Recreation

As described in Chapter 2, implementing the General Plan would involve improvements to existing recreational opportunities at Clay Pit SVRA. Implementing recreation improvements at the SVRA would not create additional demand for other external recreational facilities (e.g., local or regional parks) or affect the capacity of these facilities. Therefore, there would be no impact to external recreation facilities and this impact is not discussed as a separate or stand alone topic. In addition, implementation of facility improvements at the SVRA could result in physical effects to the environment, that are fully analyzed in Chapter 3, "Environmental Analysis," and Chapter 4, "Cumulative Analysis," of this DEIR.

5.2 Unavoidable Significant Environmental Impacts

As required by State CEQA Guidelines Section 15126.2(b), an EIR must describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less-than-significant level. Chapter 3 of this DEIR describes potential environmental impacts that may occur with implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities. For all issue areas, implementation of the General Plan would not result in unavoidable significant environmental impacts.

5.3 Significant Irreversible Environmental Changes

As required by Section 21100(b)(2)(B) of the CEQA Statutes and Sections 15126(c) and 15127 of the State CEQA Guidelines, an EIR must analyze the extent to which the project's primary and secondary effects would affect the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. Irretrievable commitment of these resources is required to be evaluated to ensure that such consumption is justified. Implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would cause the following irreversible environmental changes:

- The natural environment would be altered as a consequence of the development process. Implementation of the General Plan, including construction and operation of the headquarters facilities, would represent a commitment of land to OHV use and development of new recreation, administration, and maintenance facilities. This commitment of land resources would be consistent with the current use and land use designation of the site and would improve those recreation opportunities offered at Clay Pit SVRA that are specifically important for the local community.
- Requirements of public services and utilities would increase, which represents a permanent commitment of these resources. As described in Section 3.9, "Public Services

and Utilities," adequate utility supplies and availability of services exist to serve Clay Pit SVRA with implementation of the General Plan, including construction and operation of the headquarters facilities.

- Nonrenewable natural resources would be used for construction and operation of facilities per the General Plan, including construction and operation of the headquarters facilities. Resources may include diesel, gasoline, or oil for construction equipment; propane to provide power, heating, and cooling to buildings; and gasoline and oil for OHV operation. The energy consumed in future development and maintenance of Clay Pit SVRA would be considered a permanent investment. This impact would be reduced through sustainable practices in site design, construction, maintenance, and operations that are generally practiced by the OHMVR Division, and that are proposed in the goals and guidelines in the General Plan. Sustainable principles used in design, construction, and management may include the use of nontoxic materials and renewable resources, resource conservation, recycling, and energy efficiency. With implementation of the General Plan, including construction and operation of the headquarters facilities, the overall rate of use of renewable natural resources would not substantially increase or result in the depletion of any renewable resource.

- Various renewable natural resources would be used, such as water and lumber for construction and operations. Implementation of the General Plan, including construction and operation of the headquarters facilities, would be a relatively minor consumer of these supplies when compared to other types of development throughout the region. The use of drought-tolerant landscaping would reduce the need for irrigation water consumption. With implementation of the General Plan, including construction and operation of the headquarters facilities, the overall rate of use of renewable natural resources would not substantially increase or result in the depletion of any renewable resource.

5.4 Growth-Inducing Impacts

As required by State CEQA Guidelines Section 15126.2, this DEIR must discuss ways the project could foster economic or population growth, either directly or indirectly, in the surrounding area. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of the proposed project. A project can be determined to have a growth-inducing impact if it directly or indirectly removes obstacles to growth or encourages or facilitates other actions considered to be "growth accommodating." Growth inducement itself is not an adverse environmental effect, but may lead to environmental impacts such as increased traffic and noise, degradation of air or water quality, degradation or loss of plant or wildlife habitats, or conversion of open space land to urban uses.

The Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would not result in the creation of new residential development and, thus, would not

directly facilitate growth in the area. As described above, indirect growth inducement would also not result.

The construction of infrastructure is often considered an action that removes obstacles to growth in an area. The site is currently served by existing roadways, but not served by utilities or public services. All new infrastructure that would be installed with implementation of the Clay Pit SVRA General Plan, including construction and operation of the headquarters facilities, would serve only the Clay Pit SVRA on-site facilities and would not extend off-site or result in service expansions that could serve or accommodate other future development in the project area.

Clay Pit SVRA historically and currently serves as an OHV recreation area and social gathering location for the local community. The General Plan, including construction and operation of the headquarters facilities, would not change the overall use of the property but, rather, enhance the existing use and recreation opportunities within the SVRA. The improvement of Clay Pit SVRA would not be expected to attract new residential development or foster economic or population growth.

For these reasons, implementation of the General Plan, including construction and operation of the headquarters facilities, would not result in primary or secondary environmental effects related to additional growth.

Chapter 6.0 – Alternatives to the Proposed Project

State CEQA Guidelines Section 15126.6 details the guiding principles for analyzing alternatives in this DEIR:

- consider alternatives that could reduce or eliminate any significant environmental impacts of the proposed project (the Clay Pit SVRA General Plan), including alternatives that may be more costly or could otherwise impede the project's objectives; and
- describe a range of reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project;
- evaluate the comparative merits of the alternatives.

The Clay Pit SVRA General Plan was developed concurrently with this DEIR. Development of the General Plan was guided by the goal to develop a management plan that avoids significant impacts on the environment. Thus, the General Plan is largely "self mitigating" and implementation of the Clay Pit SVRA General Plan would not result in significant impacts on the environment. Therefore, no alternatives exist that could reduce or eliminate significant environmental impacts. However, the alternatives presented in this chapter each have the potential of minimizing several less-than-significant impacts..

Because the General Plan was developed with the intent to attain all project objectives while minimizing environmental impacts, it is difficult to develop alternatives that could reduce environmental impacts while feasibly attaining most of the project objectives. Therefore, this chapter describes a range of reasonable alternatives that could attain some of the project objectives.

This chapter evaluates the merits of the alternatives compared with the proposed project, the Clay Pit SVRA General Plan, as described in Chapter 4 of the General Plan.

The following three project alternatives are shown alongside the proposed project in Figure 6-1:

- the No-Project Alternative,
- the Reduced Developed Use Area Alternative, and
- the Conservation Alternative.

The headquarters facilities would be constructed regardless of the alternative selected (except the No-Project Alternative); thus, any impacts attributed to the headquarters would occur under each development alternative.

State CEQA Guidelines Section 15126.6(d) permits alternatives to be evaluated in less detail than is used to evaluate the proposed project. The project alternatives, including the No-Project Alternative, are described in this DEIR to allow for a meaningful evaluation, analysis, and comparison of these alternatives with the proposed project, the Clay Pit SVRA General Plan..

The following discussion is intended to inform the public and decision makers of alternatives to the proposed project and the positive and negative aspects of those alternatives when compared with the General Plan. Section 6.4 summarizes these findings and makes a conclusion about which alternative is the environmentally superior alternative.

6.1 No-Project Alternative

6.1.1 Description

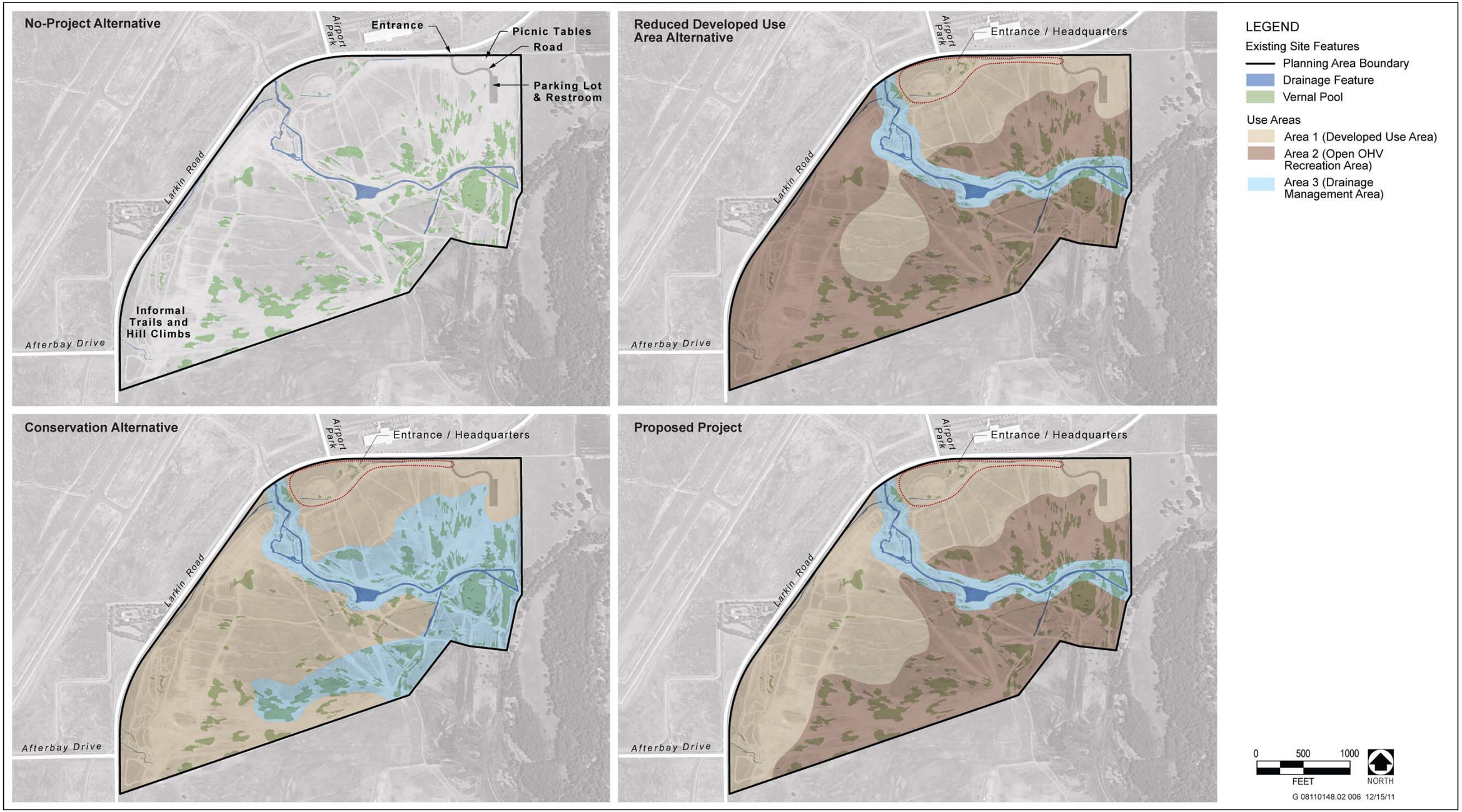
CEQA requires an evaluation of the "no project" alternative and its impact (State CEQA Guidelines Section 15126.6[e][1]). The purpose of describing and analyzing the No-Project Alternative is to allow decision makers to compare the impacts of approving the Clay Pit SVRA General Plan with the impacts of not approving the General Plan.

The following describes the physical conditions likely to exist in the future if the project (the Clay Pit SVRA General Plan) were not approved and implemented. Without a general plan for Clay Pit SVRA, the existing patterns of operation and management would be expected to continue and no major recreational or operational facilities, such as the headquarters or OHV tracks, would be developed. Likewise, none of the management activities designed to improve environmental conditions at the SVRA (e.g. water quality and habitat improvements) would occur. Social gathering would continue as it does currently. Visitation increases would be smaller than under the proposed project because the SVRA would have fewer recreational opportunities. However, overall use would still be expected to increase as the statewide and regional populations grow.

6.1.2 Evaluation

If the General Plan was not implemented, impacts related to traffic, air quality, noise, visual resources, utilities, hazards, and climate change would be less than those that would occur under the proposed project. Impacts to cultural resources and public services would remain largely the same, while impacts to water quality, biological resources, and geological resources potentially would be greater.

Although the regional population would grow, and OHV use might continue to grow within the state, thus causing use of the SVRA to increase, no new OHV facilities would be constructed that would by their presence cause an increase in the number of visitors to the SVRA. Therefore, less traffic would be generated, fewer vehicles would emit pollutants at the SVRA, fewer vehicles would generate noise at the SVRA, no buildings or facilities would affect visual resources, fewer



Source: AECOM 2010

Project Alternatives **Figure 6-1**

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utilities (including water) would be required, fewer visitors would be subject to the inherent risks of OHV recreation, and a smaller carbon footprint would be generated by the SVRA.

Because the Clay Pit SVRA General Plan includes many guidelines that would improve water quality and erosion, and protect, preserve, and restore biological and geological resources, if the No Project Alternative were chosen, many of these guidelines would not be implemented beyond the requirements of laws and regulations.

6.2 Conservation Alternative

6.2.1 Description

If the Conservation Alternative were implemented instead of the proposed project, the areas of the SVRA that include the greatest density of vernal pools would be designated as conservation areas. No facilities would be built and OHV use would be precluded from these conservation areas.

Developed uses such as paved parking areas, paved access roads, OHV tracks, ATV tracks, MX tracks, a trials play area, an obstacle course, internal roadways, and staging facilities including restrooms and picnic areas could be placed throughout the remainder of the SVRA. A dedicated Open OHV Recreation Area would not be designated, but Open OHV recreation could occur throughout the SVRA in areas not occupied by developed facilities or designated as conservation areas.. Goals and guidelines applicable to the Developed Use Area and Drainage Management Area would be implemented as described in the General Plan, but goals and guidelines applicable to the Open OHV Recreation Area would not be implemented.

The Larkin Road entrance to the site would be moved opposite the airport entrance road as described for the proposed project. The headquarters facilities would be developed as described in the General Plan and would include a headquarters building, a maintenance yard, an entrance kiosk, and paved circulation roads. Fulltime staff would be on-site during operating hours.

6.2.2 Evaluation

If the Conservation Alternative were implemented, impacts related to traffic, air quality, noise, visual resources, cultural resources, public services, utilities, and climate change would remain largely the same. Impacts to water quality, biological resources, and geological resources would be different and would be reduced in some ways. Hazardous risks would increase.

Because the facilities envisioned in the General Plan also would be built under the Conservation Alternative, the number of visitors to the SVRA would be expected to increase by the same amount. Therefore, impacts to resources would occur in a similar fashion and to the same degree as with the proposed project. Visual resources and cultural resources would be impacted differently because facilities would likely be built in different locations, but this would not change the degree of potential impact.

Implementing the Conservation Alternative would cause different types of impacts to water quality, biological resources, and geological resources. Because OHV use would not be allowed in much of the SVRA, vegetation likely would be more abundant in these areas, water quality (e.g. turbidity) likely would be improved in these areas, and erosion likely would be reduced in these areas. However, excluding OHVs from these areas may decrease the distribution of vernal pool shrimp species across the SVRA. Also, developed uses would have to occur across most of the rest of the SVRA to accommodate the recreation objectives of the SVRA. This development would require the fill of more vernal pool acreage than would implementation of the proposed project. Such fill would reduce the acreage of vernal pool habitat, would involve the take of vernal pool shrimp species, and could cause more erosion and water quality degradation overall by distributing developed uses around the park rather than concentrating them in the least sensitive areas.

Because developed uses would be distributed across the SVRA, there would be little opportunity to separate developed uses from open OHV recreation. This intermingling of different types of OHV recreation would increase the risk of hazardous interactions between visitors.

6.3 Reduced Developed Use Area Alternative

6.3.1 Description

If the Reduced Developed Use Area Alternative were implemented, developed uses would be restricted to a much smaller area. Uses such as paved parking areas, paved access roads, OHV tracks, ATV tracks, MX tracks, a trials play area, an obstacle course, internal roadways, and staging facilities including restrooms and picnic areas would be restricted to areas in which no water features (e.g. vernal pools) are located. The drainage management area would be designated as described in the General Plan. The Larkin Road entrance to the site would be moved opposite the airport entrance road, and the headquarters facilities would be developed as described in the General Plan. Generally, goals and guidelines applicable to the three use areas would be implemented as described in the General Plan

6.3.2 Evaluation

If the Reduced Developed Use Area Alternative were implemented, impacts related to traffic, air quality, noise, utilities, hazards, and climate change would be reduced. Impacts related to visual resources, cultural resources, public services would remain largely the same. Impacts to water quality, biological resources, and geological resources would be different and could be reduced in some ways.

Many of the facilities envisioned in the General Plan also would be built under the Reduced Developed Use Area Alternative. However, because the area designated for developed uses would be much smaller than that in the proposed project, the number of visitors to the SVRA would be expected to increase by a smaller amount. Therefore, traffic, air quality, noise, utilities, hazards,

and climate change would be impacted in about the same fashion but to a smaller degree than if the General Plan were implemented. Visual resources and cultural resources would be impacted differently because facilities would likely be built in different locations, but this would not change the degree of potential impact.

Implementing the Reduced Developed Use Area Alternative would cause different types of impacts to water quality, biological resources, and geological resources (e.g. erosion) than implementing the proposed project. With less area available for developed uses, less natural habitat (e.g. annual grassland) would be converted. Also, because developed uses would occur only in areas of the SVRA where no water features (e.g. vernal pools) exist, none of this habitat would be filled. However, although the proposed project would allow developed uses in some areas where water features exist, goals and guidelines in the General Plan require that these features be avoided to the extent feasible (e.g. Water Guideline 1.1, Wildlife Guideline 1.4). Therefore, in practice, if none of these features were filled then there would be no difference in this regard between the Reduced Developed Use Area Alternative and the proposed project.

Because development often increases erosion and water quality degradation, the smaller amount of Developed Use Area in the Reduced Developed Use Area Alternative could improve water quality in comparison with the proposed project. However, because under the proposed project developed OHV facilities at the SVRA would concentrate OHV use in areas with the fewest water features, and because water treatment facilities (e.g. sediment basins) would be incorporated into OHV facility designs, developing OHV facilities as described in the General Plan (i.e., in suitable locations and with suitable methods) may reduce water quality degradation (e.g. turbidity) by reducing the amount of bare soil exposed to erosion.

6.4 Identification of the Environmentally Superior Alternative

Under the proposed project and all of the alternatives except the No-Project Alternative, the headquarters buildings, maintenance yard, entrance kiosk, and relocated entrance would be constructed, and Goals and Guidelines generally would be implemented as described in the General Plan. Under the No-Project Alternative, many of the management goals and guidelines for preserving and restoring natural resources would not be implemented beyond that required by laws or regulations. For this reason, the No-Project Alternative is not considered the environmentally superior alternative.

The Conservation Alternative was developed to preserve many of the vernal pools found on Clay Pit SVRA. However, the tradeoffs of this alternative include more widely spread development, and the potential fill of more sensitive habitat (e.g. vernal pools) on the SVRA. For this reason, the Conservation Alternative is not considered the environmentally superior alternative.

The Reduced Developed Use Area Alternative was developed to prevent the fill of any vernal pools found on Clay Pit SVRA. Because the facilities that would be developed would be similar under the

proposed project and under the Reduced Developed Use Area Alternative, the type of environmental impacts related to construction and operational activities would be similar. However, the area designated for developed uses would be much smaller than that designated under the proposed project, and therefore the number of visitors to the SVRA would be expected to increase by a smaller amount. Thus, generally environmental impacts would occur to a lesser degree than under the proposed project. For this reason, the Reduced Developed Use Area Alternative is considered the environmentally superior alternative.

However, the Reduced Developed Use Area Alternative does not meet all of the project objectives. It would not "Maximize the use of Clay Pit SVRA as a recreation resource while also protecting natural and cultural resources on-site," "Anticipate future area growth pressures and identify strategies to accommodate them at Clay Pit SVRA", or "Provide a framework for the provision of adequate facilities for Clay Pit SVRA management operations." The proposed project would provide the best balance between resource protection and recreational use of the Clay Pit SVRA.

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Chapter 6, "Alternatives to the Proposed Action"

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