

Draft Environmental Impact Report

September 2013

Z12-002

GP12-002

EIR12-002

SCH No. 2009072070



COUNTY OF NEVADA

Housing Element Rezone Program Implementation

**County of Nevada
Housing Element Rezone Implementation Program**

**Draft Environmental Impact Report
Rezone (Z12-002)
General Plan Map Amendment (GP12-002)
Certification of EIR (EIR12-002)
SCH No. 2009072070**

September 2013

Prepared For:



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Acronyms and Abbreviations

2020 General PlanCity of Grass Valley 2020 General Plan

A

AB	Assembly Bill
ACM	Asbestos-Containing Material
ADAM	Aerometric Data Analysis and Measurement System
ADT	Average Daily Trips
ADT	Average Daily Traffic
ADWF	Average Dry-Weather Flow
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor’s Parcel Number
APS	Alternative Planning Strategy
ASCE	American Society of Civil Engineers
ATCM	Airborne Toxic Control Measures
AWS	All Way Stop

B

Basin	Mountain Counties Air Basin
BAU	Business As Usual
bgs	Below Ground Surface
BLM	Bureau of Land Management
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand

BPBusiness Park

C

C2Community Commercial

C₂F₆Hexafluoroethane

CAAQS.....California Ambient Air Quality Standards

CAL FIRE.....California Department of Forestry and Fire Protection

Cal/EPACalifornia Environmental Protection Agency

CalEEModCalifornia Emissions Estimator Model

CaltransCalifornia Department of Transportation

CAO.....(hazards)

CARBCalifornia Air Resources Board

CAT.....Climate Action Team

CBC.....California Building Code

CCCommunity Commercial

CCR.....California Code of Regulations

CDFG.....California Department of Fish and Game

CDFWCalifornia Department of Fish and Wildlife

CDO(hazards)

CDOCease and Desist Order

CECalifornia Endangered

CEC.....California Energy Commission

CEQA.....California Environmental Quality Act

CERCLA.....Comprehensive Response Compensation and Liability Act

CESA.....California Endangered Species Act

CF ₄	Tetrafluoromethane
CFC	Chlorofluorocarbon
CFP	California Fully Protected
CFR	Code of Federal Regulations
CH ₄	Methane
CHP	California Highway Patrol
CHWMP	County Hazardous Waste Management Plan
City	City of Grass Valley
CIWMB	California Integrated Waste Management Board
CLUP	Comprehensive Land Use Plan
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ eq	Carbon Dioxide Equivalent
COD	Chemical Oxygen Demand
Cortese List	State of California Hazardous Waste and Substances Site List
County	Nevada County
County General Plan	Nevada County General Plan
CPUC	California Public Utilities Commission
CR	California Rare
CRHR	California Register of Historical Resources
CSC	California Species of Concern
CT	California Threatened

CTR.....California Toxics Rule
CVRWQCBCentral Valley Regional Water Quality Control Board
CWA.....Clean Water Act
CWHR.....California Wildlife Habitat Relationships
CWIBCalifornia Workforce Investment Board

D

dB.....Decibel
dBAA-weighted Decibel
dbhDiameter at Breast Height
DEHDepartment of Environmental Health
DEIR.....Draft Environmental Impact Report
DMA 2000.....Disaster Mitigation Act of 2000
DO.....Dissolved Oxygen
DOFDepartment of Finance
DOTDepartment of Transportation
DTSCDepartment of Toxic Substance Control
du/acreDwelling Unit per Acre

E

EAC.....Early Action Compact
EBEastbound
EDUEquivalent Dwelling Unit
EIR.....Environmental Impact Report

ELIExtremely Low Income
EPA.....United States Environmental Protection Agency
ESAEnvironmentally Sensitive Area

F

FAA.....Federal Aviation Administration
FCAAFederal Clean Air Act
FEFederal Endangered
FEMA.....Federal Emergency Management Area
FESA.....Federal Endangered Species Act
FHWA.....Federal Highway Administration
FIDR.....Facilities Improvement Design Report
FIRM.....Flood Insurance Rate Map
FP.....Federal Proposed Species
FT.....Federal Threatened
FTA.....Federal Transit Administration

G

GCJC.....Green Collar Jobs Council
General Permit.....General Construction Activity Stormwater Permit
General PlanNevada County General Plan
General Plan EIR.....Nevada County General Plan Environmental Impact Report
GHG.....Greenhouse Gas
GVCity of Grass Valley

GVTIF.....Grass Valley Traffic Impact Fee

GWP.....Global Warming Potential

H

H&K.....Holdrege & Kull

H₂OWater Vapor

HCDHousing and Community Development

HCFC.....Hydrochlorofluorocarbon

HCM.....Highway Capacity Manual

HCPHabitat Conservation Plan

HFC.....Hydrofluorocarbon

HFPD.....Higgins Fire Protection District

Higgins Area.....Higgins Corner – Lake of the Pines Village Center

HMRHazardous Materials Regulations

HPLVHigh-Pressure-Low-Volume

HWCL.....Hazardous Waste Control Law

I

I-80.....Interstate 80

IBCInternational Building Code

IDR-SC-SP.....Interim Development Reserve – Scenic Corridor Combining
District - Site Performance

IDR-SP.....Interim Development Reserve – Site Performance

IPCCIntergovernmental Panel on Climate Change

ISOInsurance Services Office

ITE.....Institute of Transportation Engineers

K

km.....Kilometer

L

LAFCO.....Local Agency Formation Commission

LBP.....Lead-Based Paint

LCFS.....Low Carbon Fuel Standard

L_{dn}Day/Night Average Sound Level

L_{eq}Equivalent Sound Level

L_{max}Maximum Sound Level

L_{min}Minimum Sound Level

LOS.....Level of Service

LPG.....Liquefied Petroleum Gas

LRA.....Local Responsibility Area

LTMF.....Local Traffic Mitigation Fee

LUST.....Leaking Underground Storage Tanks

M

MBTA.....Migratory Bird Treaty Act

MEP.....Maximum Extent Practicable

mgd.....Million Gallons per Day

mm.....Millimeter

MMRP.....Mitigation Monitoring and Reporting Program
mpgMiles Per Gallon
MPO.....Metropolitan Planning Organization
MS4.....Municipal Separate Storm Sewer System
msl.....Mean Sea Level
MT.....Metric Tons
MUTCDManual on Uniform Traffic Control Devices

N

N/A.....Not Applicable
N₂ONitrous Oxide
NA.....Not Applicable
NAAQSNational Ambient Air Quality Standards
NAHCNative American Heritage Commission
NB.....Northbound
NCCFDNevada county Consolidated Fire District
NCTC.....Nevada County Transportation Commission
Nev. Cnty.....Nevada County
NFIP.....National Flood Insurance Program
NHPANational Historic Preservation Act
NHTSANational Highway Traffic and Safety Administration
NIDNevada Irrigation District
NIH.....National Institute of Health
NJUHSD.....Nevada Joint Union High School District
NMNot Measured

NO₂Nitrogen Dioxide

NOANaturally Occurring Asbestos

NOCNotice of Completion

NOPNotice of Preparation

NO_x.....Nitrogen Oxides

NPDESNational Pollutant Discharge Elimination System

NPPA.....Native Plant Protection Act

NPS.....National Park Service

NRHPNational Register of Historic Places

NSAQMD.....Northern Sierra Air quality Management District

NSNFVP.....Northern Sierra Nevada Foothills Vegetation Project

O

O₃Ozone

OEHHAState Office of Environmental Health Hazard Assessment

OES.....Office of Emergency Services

OPOffice Professional

OPR.....Office of Planning and Research

OP-SC-SPOffice Professional – Scenic Corridor Combining District – Site Performance

OSHA.....Occupational Safety and Health Administration

P

PbLead

PDPlanned Development

PFC	Perfluorocarbon
PG&E	Pacific Gas and Electric
PM ₁₀	Particulate Matter 10 microns in diameter or less
PM _{2.5}	Particulate Matter 2.5 microns in diameter or less
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
PPV	Peak Particle Velocity
PRC	Public Resources Code
PRUSD	Pleasant Ridge Union School District
PST	Pacific Standard Time
PVFPD	Penn Valley Fire Protection District
PV-WWTP	Penn Valley Wastewater Treatment Plant

R

R1	Single-Family
R2	Medium Density
R3	High Density
RA	Residential Agriculture
RCRA	Resource Conservation and Recovery Act
RH	Regional Housing Need
RH	Relative Humidity
RHNA	Regional Housing Need Allocation
ROG	Reactive Organic Gas
RPS	Renewable Portfolio Standard

RTMF.....Regional Traffic Mitigation Fee

RWQCBRegional Water Quality Control Board

S

SB.....Senate Bill

SB.....Southbound

SC.....Scenic Corridor

SCS.....Sustainable Communities Strategy

SF₆.....Sulfur Hexafluoride

SFHASpecial Flood Hazard Area

Small MS4 General Permit ..General Permit for Discharges of Storm Water from Small MS4s

SMARACalifornia State Surface Mining and Reclamation Act

SO₂Sulfur Dioxide

SOI.....Sphere of Influence

SO_x.....Sulfur Oxides

SPSite Performance

SR.....State Route

SRA.....State Responsibility Area

SRRESource Reduction and Recycling Element

SSS.....Side Street Stop

SWMPStormwater Management Program

SWPPPStormwater Pollution Prevention Plan

SWRCB.....State Water Resources Control Board

T

TAZ.....Traffic Analysis Zone
TKNTotal Kjeldahl Nitrogen
TMDLTotal Maximum Daily Load
TOC.....Total Organic Carbon

U

U.S.United States
U.S. EPA.....United States Environmental Protection Agency
UHD.....Urban High Density
UMDUrban Medium Density
USACE.....United States Army Corps of Engineers
USFUrban Single-Family Residential
USFWSUnited States Fish and Wildlife Service
USGSUnited States Geological Survey
UV-BUltraviolet Rays
UWMPUrban Water Management Plan

V

V/CVolume to Capacity
VELBValley Elderberry Long Beetle
VMTVehicle Miles Traveled
VOC.....Volatile Organic Compound

W

WBWestbound

WSAWater Supply Assessment

WTPWater Treatment Plant

WWTPWastewater Treatment Plant

Y

yrYear

Z

Zoning OrdinanceNevada County Zoning Ordinance

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1.0 INTRODUCTION

1.1 BACKGROUND

This Draft Environmental Impact Report (EIR) has been prepared to analyze the potential environmental effects that may result from the proposed Housing Element Rezone Program Implementation of Housing Element Programs HD-8.1.3 and HD-8.1.4, including the “RH” Zoning Combining District in Program HD-8.1.5 in Nevada County, California, pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.), and the *CEQA Guidelines* (California Code of Regulations [CCR] Title 14, Section 15000 et seq.).

CEQA requires California public agencies to consider the environmental consequences of projects for which they have discretionary authority. The public agency with the principal responsibility for carrying out or approving a project is the “lead agency.” CEQA requires the lead agency to prepare an EIR if there is substantial evidence, in light of the whole record, that a project may have a significant effect on the environment. A significant effect is defined in CEQA as a substantial and adverse physical change in the environment. Nevada County (County) is the lead agency for the proposed project.

The proposed project is the development and in some cases the annexation of 18 pre-selected sites. The 18 rezone sites comprise an area totaling approximately 149 acres, scattered throughout three general areas of unincorporated Nevada County; Grass Valley Sphere of Influence (SOI), Penn Valley, and Lake of the Pines. The 18 sites are irregular shaped areas with varying dimensions. The majority of the rezoning areas are undeveloped and surrounded by a variety of existing development, including single-family residential, rural residential, commercial agricultural, recreational, and utility uses. The natural features within the 18 pre-selected sites include a variety of distinct plant communities and several creeks.

To meet state housing requirements identified in the County’s Housing Element, high density residential zoning (R3) for an additional 1,270 low and very low income housing units are required to meet the County’s unmet housing needs. The project proposes to implement rezoning through the Zoning Map Amendment process to rezone sufficient acreage to higher density residential, or the equivalent of higher density residential, to meet the minimum low and very low income requirements. The specific rezoning process is proposed through the implementation of Housing Element Programs HD-8.1.3 and HD-8.1.4, including adding the “RH” Zoning Combining District to those sites included in Program HD-8.1.5.

In order to meet state housing requirements identified in the County’s Housing Element, the County is proposing to rezone 18 sites to meet the County’s need of a minimum of 1,270 low and very low income housing units. In addition to a Zoning Map amendment, all of the proposed project sites will require a General Plan Map Amendment, with the exception of Site 6, to accommodate a proposed density of 16-20 dwelling units per acre (du/acre) under the Urban High Density designation. Sites 1-9 located within the Grass Valley SOI area of Nevada County will accommodate a maximum of 20 du/acre, and Sites 10-18 will accommodate a maximum of 16 du/acre. The range of 16-20 du/ac reflects the County’s designation that allows up to 20 du/ac in the R3 Zoning when the site is within a City SOI. Since Sites 1-9 are located within the City of Grass Valley SOI, they can accommodate up to

20 du/ac. The 16 du/acre relates to the state-mandated density for rezoned sites and is allowed by the County's RH (Regional Housing Need) combining districts.

The projects within the Grass Valley SOI would require annexation into the City of Grass Valley prior to developing those sites in accordance with increased density associated with the Regional Housing Need (RH) Combining District zone. Accordingly, the Nevada County Local Agency Formation Commission (LAFCO) would be a responsible agency. In addition to annexing these properties into the City, LAFCO would also need to detach the area from the Nevada County Consolidated Fire District service area and add the area to the City Fire Department's service area.

As outlined in the "RH" Zoning Combining District Ordinance (Section L-II 2.7.11.C.3 of the Nevada County Land Use and Development Code), the project will result in the development of a Regional Housing Need Implementation Plan. This Plan will outline site-specific development standards and any CEQA mitigation measures adopted for each site that must be adhered to in order for the site to develop consistent with the purpose of the rezone and to ensure that the development of the site does not result in a significant environmental impact.

1.2 PURPOSE OF THE EIR

An EIR is an informational document that is written to inform public agency decision-makers and the public of the significant environmental effects of a proposed project. The purpose of an EIR is to:

- Analyze the environmental effects of a proposed project
- Indicate mitigation measures to avoid or minimize the potentially significant environmental effects of a proposed project
- Identify alternatives to the project that would avoid or substantially lessen the significant effects of the project

Environmental effects that are addressed in an EIR consist of potentially significant, adverse effects of the project across a full spectrum of environmental topics; growth-inducing effects of the project; and significant cumulative effects of past, present and reasonably anticipated future projects.

It is not the purpose of an EIR to recommend either approval or denial of a project. Rather, EIRs provide relevant information that will assist decision-makers in their decision to approve or deny a project. The lead agency may choose to approve a project that would result in significant environmental effects that cannot be mitigated. If this occurs, the lead agency is required to adopt a "Statement of Overriding Considerations."

1.3 SCOPE OF THE EIR

The focus of this EIR is limited to specific issues and concerns identified as causing potentially significant effects on the environment.

1.3.1 NOTICE OF PREPARATION

The County deemed that an Initial Study would not provide a sufficient amount of environmental analysis for this particular project and elected to skip the preparation of an Initial Study and prepare an EIR. To determine the scope of the EIR, the County prepared

and distributed a Notice of Preparation (NOP), dated September 21, 2012, for the proposed project. An NOP is a document that is sent by the lead agency to notify public agencies and interested parties that the lead agency plans to prepare an EIR for a proposed project. The purpose of an NOP is to solicit comments from public agencies and interested parties, and to identify specific environmental issues that should be considered in the EIR.

The NOP identified the following issues to be addressed in this EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases
- Hydrology and Water Quality
- Land Use and Planning
- Transportation/Traffic

The NOP was sent via certified mail to trustee and responsible agencies, and the State Clearinghouse for a 30-day public review period, extending from September 21 to October 26, 2012. The NOP and written comments received from public agencies and interested parties are contained in Appendix A (Notice of Preparation and Public Comments).

1.3.2 PUBLIC REVIEW AND SCOPING MEETING

On October 3, 2012, a public meeting on the scope of the EIR was held. A public notice of the meeting was sent to members of the public and interested parties. At the meeting, members of the public had the opportunity to identify issues of special concern and to suggest additional issues to be considered in the EIR. Minutes from the meeting are included in Appendix A.

1.3.3 CONTENTS OF DRAFT EIR

All of the environmental issues listed in the NOP were determined to have potentially significant impacts, and the issues identified during the public review period for inclusion in the EIR have been incorporated into this EIR. For each environmental issue, the EIR describes the environmental setting (current conditions), then discusses and analyzes the potential related impacts that could be caused by project implementation.

For each potentially significant impact, the EIR specifies ways to mitigate the impact, including implementation of one or more of the following mitigation measures:

- Existing goals, objectives, policies and programs of the General Plan
- Applicable mitigation measures of the Draft and Final EIR for the General Plan
- Project-specific mitigation measures designed to mitigate one or more project impacts, as described in this EIR

The project developer must implement all mitigation measures identified in the EIR or their environmental equivalent. “Environmental equivalent” means any mitigation measure

and/or timing thereof, subject to the approval of the County, that, when compared to the mitigation measure, would have the same or superior result and would have the same or superior effect on the environment. The Community Development Agency, in conjunction with appropriate agencies or other County departments, would determine the adequacy of any proposed environmental equivalent. Any costs associated with information or environmental documentation required to determine environmental equivalency would be borne by the project developer. As with other mitigation measures, the County would ensure compliance with an environmental equivalent through the mitigation monitoring process.

1.4 ORGANIZATION OF THE EIR

The EIR has been organized into the following sections:

Chapter 1, Introduction: Provides an introduction and overview that describes the purpose of the EIR, summarizes the EIR review and certification process, identifies key areas of environmental concern, and outlines the EIR process.

Chapter 2, Executive Summary: Summarizes the proposed project, required actions by the County and other agencies, environmental setting, potential impacts of the project, mitigation measures identified to reduce or eliminate significant impacts, and alternatives to the proposed project.

Chapter 3, Project Description: Presents project objectives, describes the site location and characteristics, provides a detailed description of the proposed project and specifies the intended use of the EIR, including the actions required to implement the project.

Chapter 4, Environmental Analysis: Describes the existing conditions, analyzes the proposed project's potential environmental impacts and specifies measures to mitigate the identified impacts. Also describes cumulative impacts.

Chapter 5, Growth Inducing and Cumulative Impacts: Describes growth-inducing impacts resulting from implementation of the project.

Chapter 6, Alternatives: Evaluates a reasonable range of project options (alternative ways of meeting the project objectives) that would reduce or avoid environmental impacts, including the No Project Alternative.

Chapter 7, Other CEQA Considerations: Discusses irreversible or irretrievable commitments of resources and significant unavoidable impacts.

Chapter 8, Report Preparation Personnel: Lists personnel who prepared the EIR, including County staff and consultants.

Chapter 9, References: Lists sources of information used in the preparation of the EIR.

Appendices: Includes the NOP for the EIR, comments received in response to the NOP and the County's scoping activities, and background technical studies.

1.5 TERMINOLOGY USED IN THE EIR

This EIR uses the following terminology to denote the significance of environmental impacts of the proposed project:

- A “beneficial impact” is an environmental impact that would be a positive contribution or improvement to the physical conditions that exist in the area affected by the project.
- An “environmental impact” is a direct or indirect effect that would be caused by the project that constitutes a physical change to the existing natural or man-made conditions within the area affected by the project.
- “No impact” is the lack of any environmental impact, and no mitigation is required.
- A “less than significant” impact or an impact that is “not significant” is an environmental impact that would cause no substantial adverse change in the environment and, as such, requires no mitigation.
- A “potentially significant” or “significant” impact is an environmental impact that could or would cause a substantial adverse change in the environment. In such a case, an impact has been identified that, although potentially significant, can be avoided or reduced to less than significant levels through mitigation. Such mitigation may include project design features that have been incorporated into the project or existing requirements, such as municipal code or ordinance, engineering and design requirements (e.g., California Building Code), and standard regulations set by regional, state and federal agencies. A further description of mitigation measures is provided below.
- A “significant and unavoidable” impact is an environmental impact that could or would cause a substantial adverse change in the environment and cannot be avoided if the project is implemented; mitigation may be recommended, but would not reduce the impact to a less than significant level.
- “Mitigation measures” are defined in *CEQA Guidelines* Section 15370 as:
 - Avoiding the impact altogether by not taking a certain action or parts of an action
 - Minimizing the impact by limiting the degree or magnitude of the action and its implementation
 - Rectifying the impact by repairing, rehabilitating or restoring the affected environment
 - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
 - Compensating for the impact by replacing or providing substitute resources or environments

1.6 FINAL EIR AND PROJECT APPROVAL

1.6.1 PUBLIC REVIEW OF DRAFT EIR

In accordance with CEQA, a good-faith effort has been made during the preparation of this EIR to contact all affected agencies, organizations and persons who may have an interest in this project.

This Draft EIR, with an accompanying Notice of Completion (NOC), is being circulated to the California State Clearinghouse, trustee agencies, responsible agencies, other government agencies and interested members of the public for a 45-day review period as required by

CEQA. The review period for this Draft EIR is between September 12 and November 12, 2013 (60 day review period). During this period, public agencies and members of the public may provide written comments on the analysis and content of the EIR. In reviewing a Draft EIR, readers should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and on ways in which the significant effects of the project might be avoided or mitigated.

All written comments on this Draft EIR must be mailed, delivered, faxed or emailed by 5:00 p.m. on November 12, 2013, and addressed as follows:

Mail or Delivery: Nevada County
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
Attention: Tyler Barrington, Principal Planner

Fax: Tyler Barrington, Principal Planner
Nevada County
(530) 265-9851

Email: tyler.barrington@co.nevada.ca.us

All comments received on the Draft EIR during the 45-day public review period will be responded to by the County in the Final EIR.

1.6.2 CONTENTS OF FINAL EIR

The following requirements will collectively compose the Final EIR:

- The Draft EIR
- A list of all persons, organizations and public agencies that commented on the Draft EIR within the public review period
- Copies of all comments received
- Written responses to those comments

1.6.3 CERTIFICATION OF FINAL EIR AND PROJECT APPROVAL PROCESS

For a period of at least ten days prior to any public hearing during which the lead agency will take action to certify the EIR, the Final EIR will be made available to, at a minimum, the trustee and responsible agencies that provided written comments on the Draft EIR. The Final EIR must be certified before the lead agency can take action on the project.

After the EIR is certified, the County will begin evaluating the merits of the project and conduct public hearings to decide whether to approve the proposed project or not. Before approving (or conditionally approving) the project, the County must prepare a Mitigation Monitoring and Reporting Program (MMRP). The County must also prepare CEQA findings that briefly explain the rationale behind the finding for each significant impact identified for the project, and, if an impact cannot be mitigated to a less than significant level but the County as lead agency still decides to approve the project, a Statement of Overriding Considerations.

Certification of the Final EIR and approval of the CEQA findings, MMRP and Statement of Overriding Considerations may be considered during the final public hearing. The certification of the Final EIR must be first in the sequence of approvals.

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2.0 EXECUTIVE SUMMARY

2.1 PROJECT UNDER REVIEW

The proposed project is the development and in some cases the annexation of 18 project sites. The 18 rezone sites comprise an area totaling approximately 149 acres, scattered throughout three general areas of unincorporated Nevada County; Grass Valley SOI, Penn Valley, and Lake of the Pines. The 18 sites are irregular-shaped areas with varying dimensions. The majority of the rezoning areas are undeveloped and surrounded by a variety of existing development including, single-family residential, rural residential, commercial agricultural, recreational, and utility uses. The natural features within the 18 pre-selected sites include a variety of distinct plant communities and several creeks.

To meet state housing requirements identified in the County's Housing Element, high density residential zoning (R3) for an additional 1,270 low and very low income housing units are required to meet the County's unmet housing needs. The project proposes to implement rezoning through the Zoning Map Amendment process to rezone sufficient acreage to higher density residential, or the equivalent of higher density residential, to meet the minimum low and very low income requirements. The specific rezoning process is proposed through the implementation of Housing Element Programs HD-8.1.3 and HD-8.1.4, including adding the "RH" Zoning Combining District to those sites included in Program HD-8.1.5. Additionally, the project sites will require General Plan Map Amendments for each of the 18 sites, with the exception of site 6. The General Plan Map Amendment will change each land use designation to a proposed Urban High Density designation, which will accommodate a proposed density of 16-20 du/acre. The land use designation of site 6 is already Urban High Density; therefore, this site will not require a General Plan Map Amendment. Table 3-2, *General Plan (GP) Land Use Designations*, shows the existing and proposed General Plan designation for each site and the proposed allowable density for each site.

The projects within the Grass Valley SOI would require annexation into the City of Grass Valley prior to developing those sites in accordance with increased density associated with the Regional Housing Need (RH) Combining District. Accordingly, the Nevada County LAFCO would be a responsible agency. In addition to annexing these properties into the City, LAFCO would also need to detach the area from the Nevada County Consolidated Fire District service area and add the area to the City Fire Department's service area.

The proposed project anticipates development as market conditions allow, therefore this EIR attempts to identify and mitigate future impacts associated with potential development so that the project sites will be developable by-right and will not require further discretionary approval by the County, with the exception of Design Review. Development proposals shall undergo a Design Review process and public hearing at the Planning Commission limited to design issues only, pursuant to Section L-II 2.7.11.C.5: 5 of the Nevada County Zoning Code. No discretionary permit would be necessary for the density or use of the proposed project sites.

The theoretical or maximum yield of each proposed site is used in the evaluation of this EIR as a conservative approach to evaluating the potential environmental impacts associated with future development on the properties. The maximum yield of all the proposed sites is 2,675 units over 148.99 acres.

This is a conservative approach because assuming a maximum yield assumes the highest number possible of units would be built, and does not take into consideration any development constraints such as sensitive biological resources, cultural resources, ground slope, wetlands, or regulatory constraints such as existing easements, driveways, frontage improvements, or roadway or intersection improvements. The presence of any one of these constraints could limit the amount of development that is permitted on a given site.

It is anticipated that very few of the sites will be able to achieve their maximum yield. However, the maximum yield is assumed for purposes of this EIR to evaluate the greatest number of units possible to provide future development the opportunity to utilize the analysis in this environmental document for future development applications.

As outlined in the “RH” Zoning Combining District Ordinance (Section L-II 2.7.11.C.3 of the Nevada County Land Use and Development Code), the project will result in the development of a Regional Housing Need Implementation Plan. This Plan will outline site-specific development standards and any CEQA mitigation measures adopted for each site that must be adhered to in order for the site to develop consistent with the purpose of the rezone and to ensure that the development of the site does not result in a significant environmental impact.

The project has the following objectives:

- Identify private properties that can be feasibly rezoned to meet the County’s obligation to provide high-density housing opportunities as required by state law;
- Increase high-density housing opportunities in different areas of unincorporated Nevada County;
- Identify properties with property owners that consent to participating in the County’s program and agreed to have the RH Combining District on their properties;
- Identify properties that are large enough to support enough units to make developing affordable high-density financially feasible;
- Identify participating properties that have reasonable access to existing infrastructure (e.g., public roads and utilities);
- Identify properties that have reasonable access to community services (e.g., public transportation, retail/grocery stores, employment opportunities);
- Protect the natural environment; and,
- Establish clear and effective site-specific development standards/mitigation measures for each rezoned property to ensure that the future development of high-density housing on that site meets County development standards and does not result in significant and avoidable environmental impacts.

2.2 SUMMARY OF POTENTIAL IMPACTS

2.2.1 LAND USE AND PLANNING

The proposed project would not physically divide an established community or conflict with an established habitat conservation or natural community plan. Both the Nevada County General Plan and City of Grass Valley 2020 General Plan designate the project area for future development. Therefore, with approval of the proposed rezoning and General Plan Map Amendment, the proposed project would not conflict with any applicable land use plan, policy or regulations for the County of Nevada. However, the proposed change in land use

density to high density residential (20 dwelling units per acre) within the City of Grass Valley's Sphere of Influence would conflict with the City's existing medium density (4-8 dwelling units per acre) and mixed use density land use designations because the proposed density is higher. The potential conflicts would be addressed through policy agreements between the two jurisdictions. Potential impacts are considered significant.

2.2.2 AESTHETICS

The proposed project areas are not within a state designated scenic highway. Therefore, the proposed project would not substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. However, sites within the "SC" Scenic Corridor Combining District (site 14) will have the potential to impact scenic vistas. These impacts would be reduced to a less than significant level with the implementation of mitigation measures that require design review and construction equipment staging areas to use appropriate screening and buffer views of construction equipment.

The project would result in short-term aesthetic impacts as a result of construction debris and construction-related activities. These impacts would be reduced to a less than significant level with implementation of mitigation measures that require buffering of construction equipment. Future development associated with the proposed project would permanently alter the nature and appearance of the project area. However, this impact would be less than significant given that the majority of proposed development would be located adjacent to existing uses where disturbance to the natural environment has already occurred. The proposed project would result in new sources of light and glare. Implementation of mitigation measures would reduce this impact to less than significant.

2.2.3 AIR QUALITY

Future development within the proposed project area would result in significant and unavoidable increases in air pollutants during construction and operation of the project due to the exceedance of established air quality standards. The proposed project would not be consistent with air quality attainment plan criteria, which would result in a significant and unavoidable impact.

2.2.4 GREENHOUSE GAS EMISSIONS

Cumulatively considerable increases in air pollutants during operation of future development of the project would result in a significant and unavoidable cumulative contribution of greenhouse gas (GHG) emissions to global climate change.

2.2.5 BIOLOGICAL RESOURCES

The proposed project would result in potentially significant impacts due to the loss of wildlife habitat, direct loss of wildlife, wildlife disturbance from increase human presence, and removal of habitat for special-status species. Potentially significant impacts to wetland and riparian areas due to vegetation removal, disruption of wetland hydrology from potential increases and/or decreases in hydrologic input during project operation, and wetland habitat degradation from sedimentation and/or contaminated stormwater runoff during the life of the project have also been identified. Finally, future development associated with the proposed project could result in the direct loss of special-status plants during construction and direct loss of terrestrial plant communities. All these impacts would be reduced to less than significant with implementation of mitigation measures.

2.2.6 CULTURAL RESOURCES

Future development within the proposed project area could potentially damage or destroy prehistoric, historic, archaeological or paleontological resources during project construction resulting in potentially significant impacts. Implementation of mitigation measures would reduce these impacts to less than significant.

2.2.7 GEOLOGY AND SOILS

The proposed project areas are not located within or near an Alquist-Priolo special study zone and, therefore, impacts associated with rupture of a known earthquake fault are not anticipated. The proposed project could result in potentially significant impacts due to structural damage and safety risks from seismic hazards (ground shaking and seismically induced settlement, liquefaction, and dam failure) and potentially unstable soils (landslides, subsidence, or expansive soil). In addition, potential soil erosion during construction of future development could result in a potentially significant impact. Implementation of mitigation measures would reduce these impacts to a less than significant level.

2.2.8 HAZARDS AND HAZARDOUS MATERIALS

The proposed project could result in a hazard to the public or environment from accidental exposure to hazardous materials during the construction and operation of future development. Given the location of Sites 3 through 9 in the Nevada County Airport Influence Area, future development could also result in safety hazards to people living or working in the area. Future development on sites 3 through 9 would require adherence to all policies established by the Nevada County Airport Land Use Compatibility Plan to reduce safety hazards related to aviation accidents. Finally, the project could put people and structures at risk due to potential wildland fires. All these impacts would be reduced to a less than significant level with implementation of mitigation measures.

2.2.9 HYDROLOGY AND WATER QUALITY

Construction and operation of the proposed project could result in water quality degradation of surface waters within the project area. Protective and enhancement measures to minimize impacts would be required for future development of the sites. Vegetation removal, grading and construction would alter existing drainage patterns and could result in potential erosion and/or siltation. The project would increase the amount of impervious surface on-site, which would change existing absorption rates, drainage patterns and the amount of stormwater runoff and could result in potential flooding on- and off-site. BMPs and green building design features, which would be required by Mitigation Measure 4.10-1b, would help reduce the velocity of flows and encourage infiltration before runoff enters the stormwater drainage system. Only Sites 10 and 13 in the Penn Valley Area were identified to be within the 100-year floodplain. None of the other sites were at risk of being within a 100-year flood hazard area. Implementation of mitigation measures described in this EIR would reduce impacts to a less than significant level.

2.2.10 NOISE

Temporary increases in noise and groundbourne vibration during construction of the proposed project would result in potentially significant impacts. However, none of the roadway segments would experience a 3 dB increase or more between the No Project and Plus Project conditions. Thus, implementation of the proposed project would not result in a

significant increase in traffic noise levels. Construction noise impacts would be reduced to a less than significant level with implementation of mitigation measures.

2.2.11 POPULATION AND HOUSING

No housing or people would be displaced by the proposed project requiring construction of replacement housing elsewhere. The project would induce population growth within the County and City of Grass Valley. Population growth was anticipated County General Plan and no impacts have been identified. However, the proposed densities for the project sites within the City's Sphere of Influence area are higher than what is considered in the City's current General Plan. As such, the project would induce growth within the City upon annexation of the properties into the City of Grass Valley.

2.2.12 PUBLIC SERVICES, UTILITIES AND SERVICE SYSTEMS

The proposed project would result in increased demand for fire and police protection services, libraries, hospitals, and public schools. Payment of development impact fees and increased revenue from property and sales taxes would help offset the increased cost of services, personnel, equipment and infrastructure. Mitigation requiring the replacement of some sections of the County and City's sewer pipeline would address this impact. Increases in potable water demand and wastewater flows from future development within the proposed project areas would also result in potential impacts. Mitigation measures are proposed to ensure that adequate water supplies and sewer capacity are available prior to future development receiving service. However it is unknown what the capacity of the water or wastewater facilities will be at the time of construction, Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley. Thus, potential impacts on water and wastewater service would remain significant and unavoidable.

2.2.13 RECREATION

Future development within the proposed project areas could result in the physical deterioration of community and regional parks due to increased use from additional population generated by the proposed project. In addition, increases in air emissions, dust, noise and erosion during construction of future park and open space amenities could result in potentially significant impacts. Implementation of mitigation measures described in this EIR would reduce impacts to a less than significant level.

2.2.14 TRANSPORTATION/TRAFFIC

The proposed project would add traffic to the following intersections causing each intersection to operate at an unacceptable level of service (LOS) in the PM peak hour: Idaho-Maryland Road and Brunswick Road; La Barr Meadows Drive and McKnight Way; and, Brunswick Road and Ranchview Court. Mitigation measures identified in the EIR could reduce potentially significant traffic impacts at these intersections to a less than significant level.

In addition to adding traffic to existing intersections, the project would construct new project driveways along the project area street network. Restricted sight distance and close spacing of these intersections would result in impacts to safety and traffic operations. Mitigation measures identified in the EIR would reduce impacts to a less than significant level. However, the mitigation measures involve substantial intersection improvements including

the construction of roundabouts. It is unknown when the intersection improvements would occur as part of the Grass Valley Capital Improvement Program. It is also unknown if the construction of the complete intersection would be feasible for a single project developer. Furthermore, the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley. As such, potential impacts on these intersections would remain significant and unavoidable.

Cumulative traffic to the following intersections would cause each intersection to operate at an unacceptable LOS: Nevada City Highway and Brunswick Road; Brunswick Road and Town Talk Road; SR 49 Northbound Ramps and McKnight Way; and SR 49 and Combie Road. Implementation of mitigation measures would reduce cumulative traffic impacts to less than significant however, the County of Nevada does not have jurisdiction over the approval of funding or construction timing of when the improvement would occur within the City of Grass Valley. For this reason, these cumulative traffic impacts remain significant and unavoidable.

2.3 GROWTH INDUCING AND CUMULATIVE IMPACTS

Chapter 5 of this Draft EIR evaluates the cumulative and growth-inducing impacts of the proposed project. In general, with implementation of the specified mitigation measures, the project's contribution to cumulative impacts would not be significant. However, the proposed project would result in significant and unavoidable cumulatively considerable contributions of criteria air pollutants in the Mountain Counties Air Basin during the next twenty years, as well as significant and unavoidable contributions of GHG emissions to global climate change. The project would result in significant and unavoidable cumulatively considerable contributions to public services (water and wastewater services) and to identified intersections within the City of Grass Valley Sphere of Influence. The project is not expected to induce unplanned growth or development in the vicinity of the project with the County, but would induce growth within the City of Grass Valley based on existing land patterns identified in the City's General Plan.

2.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

2.4.1 LAND USE AND PLANNING

As described in Section 4.2 (Land Use and Planning), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project site.

As the proposed project proposes densities of multi-family high-density residential developments of 16 to 20 units per acre, the proposed project is inconsistent with the current City of Grass Valley 2020 General Plan Land Use Map designation for the Sites 1 through 9. Conflicts with the existing Grass Valley General Plan would be considered significant. Although mitigation is included that would require the County and City of Grass Valley to develop an agreement to address proposed density changes, the conflicts would remain until there was a change in the Grass Valley General Plan. Acceptance of an agreement by the City of Grass Valley or a change in the City's General Plan is outside the jurisdiction of the County and potential conflicts would remain significant and unavoidable.

2.4.2 AIR QUALITY

As described in Section 4.5 (Air Quality), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Exceedance of standards for fugitive dust, reactive organic gases (ROG) and exhaust during construction activities.

Despite compliance with mitigation measures, emissions associated with fugitive dust, ROG and exhaust during construction of the proposed project would exceed Northern Sierra Air Quality Management District (NSAQMD) thresholds. Thus, the project would result in a significant and unavoidable impact.

- Total operational air emissions.

Mobile source emissions generated by vehicle traffic associated with the proposed project and area source emissions would exceed established NSAQMD thresholds. Although mitigation is included that incorporates appropriate NSAQMD recommendations to reduce emissions, the impact would remain significant and unavoidable.

- Inconsistent with Air Quality Management Plan.

The proposed project would result in significant air quality impacts and would, therefore, conflict with the applicable air quality management plan. The significant air quality impacts could contribute to a pollutant for which the area is in non-attainment. Despite mitigation, this impact would remain significant and unavoidable.

It should be noted that the Grass Valley City Council adopted a Statement of Overriding Considerations (Resolution No. 99-64) regarding mobile source air quality impacts for the 2020 General Plan. The resolution stated that even after incorporation of all feasible mitigation measures, regional mobile source emissions impacts from implementation of the 2020 General Plan would remain significant and unavoidable.

2.4.3 GREENHOUSE GAS EMISSIONS

As described in Section 4.6 (Greenhouse Gas Emissions), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Cumulative contribution of greenhouse gas (GHG) emissions to global climate change.

Currently, there are no specific development proposals associated with the proposed Housing Element Rezone. Therefore, the degree and extent of future project compliance with the General Plan policies and implementation measures is not yet known and the project details necessary to calculate emission reductions are not available at this time. Future development associated with implementation of the Housing Element Rezone would need to be analyzed on a project-by-project basis to determine the extent of each project's potential contribution to global climate change and appropriate mitigation measures specific to each project. Thus, at this stage of analysis, GHG impacts associated with implementation of the Housing Element Rezone would be significant and unavoidable.

2.4.4 POPULATION AND HOUSING

As described in Section 4.12 (Population and Housing), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Would directly induce population growth in the City of Grass Valley.

The proposed project's estimated contribution of 2,960 residents located within the City's SOI would represent approximately 28 percent of the City's anticipated population growth and would occur over a 10- to 20-year timeframe. However, the proposed densities for the project sites within the City's SOI area are higher than what is considered in the City's current General Plan. As such, the project would induce growth within the City upon annexation of the properties into the City of Grass Valley. No feasible mitigation measures have been identified. The County of Nevada does not have land use authority over the City of Grass Valley to amend or alter the City's existing planning policies or the existing General Plan. Potential impacts are a result of population growth would be significant and unavoidable.

2.4.5 PUBLIC SERVICES AND UTILITIES

As described in Section 4.13 (Public Services and Utilities), future development within the proposed project sites would result in the following direct and cumulative significant and unavoidable impacts:

- The Proposed Project could result in a determination by the wastewater treatment provider that it has inadequate capacity to provide for the project's projected demand in addition to the provider's existing commitments.

The County has established sewer capacity service requirements for development within its jurisdiction. Without proposed improvements to existing WWTPs there would not be sewer service available for the proposed project Sites 10 through 18 and the proposed project would result in potentially significant impact.

The City's WWTP will need to be enlarged to handle future flows from throughout the City's system to meet the City's project population in the Year 2020. The City has established sewer capacity service requirements for development within their jurisdiction. Without proposed improvements to existing the City's existing WWTP there would not be sewer service available for the proposed project sites and the proposed project would result in potentially significant impact.

Mitigation has been identified that would reduce potential impacts to less than significant, however, this impact remains significant and unavoidable because it is unknown what the capacity of the wastewater treatment facilities would be at the time of project construction. It is also unknown if completion of the required wastewater facility improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.

- Sufficient water supplies are available to serve the Proposed Project from existing entitlements and resources; no new or expanded entitlements would be required.

Development of Sites 2, and 10 through 18 would require new water infrastructure improvements to bring potable water to these sites. Water line extensions would be within existing roadways or right of ways. These improvements would have to be in place prior to construction on each of these sites. With unknown timing or enforcement mechanism for these improvements, a potentially significant impact would occur as a result of insufficient infrastructure.

Mitigation has been identified that would reduce potential impacts to less than significant; however, this impact remains significant and unavoidable because it is unknown what the capacity of the potable water facilities would be at the time of project construction. It is also

unknown if completion of the required water infrastructure improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.

2.4.6 TRAFFIC AND CIRCULATION

As described in Section 4.15 (Traffic and Circulation), future development within the proposed project sites would result in the following direct and cumulative significant and unavoidable impacts:

- Project would add traffic to the intersection of Idaho-Maryland Road and Brunswick Road. This intersection is projected to operate at LOS F (unacceptable) in the PM peak hour.

To mitigate direct traffic impacts on the Idaho-Maryland Road and Brunswick Road intersection, a new roundabout is required at this intersection. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the roundabout in its entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement. Therefore, the impact remains significant and unavoidable.

- Project would add traffic to the intersection of La Barr Meadows Drive and McKnight Way. This intersection is projected to operate at LOS F on the worst approach (unacceptable) in the PM peak hour.

To mitigate direct impacts at the La Barr Meadows and McKnight Way intersection, dual roundabouts would be required to be constructed. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the required dual roundabouts in their entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement. The impact remains significant and unavoidable.

- Project would add traffic to the intersection of Brunswick Road and Triple Crown Road (Sites 3-6, and 9 access road). This intersection is projected to operate at an overall LOS E and LOS F on the worst approach (unacceptable) in the PM peak hour.

The project developer shall install or fund the realignment of Triple Crown Road with Town Talk Road into one intersection and the installation of a traffic signal will improve intersections of Brunswick Road and Triple Crown Drive and Brunswick Road and Town Talk Road / Bubbling Wells Road to LOS B during the PM peak hour. While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

- Cumulative Impact - The Proposed Project would add traffic to the signalized intersection of Nevada City Highway and Brunswick Road. This intersection is projected to operate at LOS E (unacceptable) in the PM peak hour.

The project developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the installation of signal timing at the intersection of Nevada City Highway and Brunswick Road to improve operations and meet future traffic volume demand. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

- Cumulative Impact - The proposed project would add traffic to the intersection of Brunswick road and Town Talk Road (Sites 7 and 8 access road). This intersection is projected to operate at an overall LOS E and LOS F at the worst approach (unacceptable) in the PM peak hour.

The realignment of Triple Crown Road with Town Talk Road (Sites 7 and 8 access) into one intersection and the installation of a traffic signal will improve intersections of Brunswick Road / Triple Crown Drive and Brunswick Road / Town Talk Road / Bubbling Wells Road to LOS C during the PM peak hour. The intersection does meet Caltrans peak hour signal warrant for the installation of a traffic signal. The proposed mitigation includes one additional southbound right turn lane, one southbound left turn lane, one northbound left turn lane and one northbound right turn lane. While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

- Cumulative Impact –Project would add traffic to the intersection of SR 49 northbound ramps and McKnight Way. This intersection is projected to operate at overall LOS E (unacceptable) in the PM Peak Hour.

Prior to the development of the project site, the Project Developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program for the provision of the dual roundabouts on McKnight Way at the SR 49 interchange. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

2.5 SUMMARY OF ALTERNATIVES EVALUATED

Chapter 6 of this EIR evaluates alternatives to the Proposed Project in accordance with the *CEQA Guidelines* Section 15126.6. These alternatives include:

- Alternative 1: No Project/Future Development Under Existing Nevada County General Plan
- Alternative 2: East Bennett Road Sites
- Alternative 3: Berriman Ranch Alternative
- Alternative 4: Reduced Development

2.5.1 NO PROJECT/FUTURE DEVELOPMENT UNDER EXISTING NEVADA COUNTY GENERAL PLAN

Under the No Project/Future Development Under Existing Nevada County General Plan Alternative (Alternative 1), the project area would remain under the jurisdiction of Nevada County (County). Since the project site consists of 19 separate parcels (Site 8 consists of two parcels), there is a potential to develop 17 homes (assuming the two existing homes on Sites 8 and 9 remain) under County regulations. However, there would be no environmental review of the potential impacts associated with the construction of the eight homes, as their construction would require approval of a building permit only (a ministerial action) and would be exempt from the requirements of CEQA. It should be noted, that although some of the sites are zoned as Office Professional, Business Park, and Medium Density Residential Development, future developments of that nature would require a site plan, discretionary approval, and subsequently CEQA review. In addition, given the options of site design (e.g. densities), it is speculative to determine and compare the type of land use on the sites. Therefore, under the No Project Alternative it is assumed the sites would be developed with single-family residential developments.

With the exception of the potential construction of 17 homes, the existing conditions within the project area would remain primarily unchanged. The majority of the undeveloped areas on the properties (woodlands, chaparral, riparian corridors and grasslands) would continue to function in their current capacity.

None of the sites within the Grass Valley Sphere of Influence would annex into the City. The County would not be in compliance with state law with regards to providing enough property with high density residential zoning. This alternative would not satisfy the project objectives stated in Chapter 3 (Project Description), which are re-stated above.

2.5.2 EAST BENNETT ROAD SITES ALTERNATIVE

The East Bennett Road Sites Alternative (Alternative 2) would relocate approximately half of the proposed units that are located on Brunswick Road (on Sites 3 through 9) and place them on property on undeveloped land on East Bennett Road, in an area zoned for business park west of Lava Rock Road. The purpose of this alternative is to reduce the number of proposed units along Brunswick Road. The proposed project has a total of 7 sites totaling 61.52 acres and a total maximum number of 1,231 units clustered together in Sites 3 through 9. This alternative proposes to move approximately half of the units to properties off of East Bennett Road to disperse the additional demand on existing traffic facilities, sewer and water facilities, and other City of Grass Valley infrastructure. The East Bennett Road sites would be within the Grass Valley Sphere of Influence (Near Term Annexation), the same as the proposed project.

Because Sites 3, 4, 5, and 9 are under a single ownership and represent approximately half of the total acreage within the cluster of sites along Brunswick Road, those sites would remain part of the project as they are in the proposed project. Sites 3, 4, 5, and 9 represent approximately 31.49 acres and 630 units. Sites 6, 7, and 8, which total 30.03 acres and 601 units, would be dropped from the program and no development under the RH Combining District would occur on those sites. Three new sites would be selected on the north side of East Bennett Road. The new site numbers would be 6, 7, and 8 to replace those sites from the proposed project. The three sites are approximately 29.74 acres and would have a maximum yield of 595 units. Alternative 2 would generate the same number of units as the proposed project.

Alternative 2 could meet all of the project objectives with the exception of the objective requiring consenting property owners to participate in the program. Property owner agreement to the RH Combining District was a critical objective of the County Board of Supervisors from the very beginning of the implementation program. Only sites with property owner consent were considered for inclusion in the project.

2.5.3 BERRIMAN RANCH SITES ALTERNATIVE

As shown in Figure 6-1, the Berriman Ranch Sites Alternative (Alternative 3) includes two separate sites. The larger of the two sites includes a 25.2 acre site (portions of APNs 22-160-03 and 22-160-02) within the proposed 129-acre Berriman Ranch Project. The smaller of the two parcels is located across SR 49 to the west adjacent to Site 2. Only a portion, of this 19 site (APN 09-620-12) adjacent to Site 2 would be used for this Alternative. Approximately 8 acres of this site, the area adjacent to Site 2, would be used for development associated with the implementation of the RH Combining District. The 121-acre Berriman Ranch Property is located adjacent to the city boundary of Grass Valley. Currently, there is no improved access to the 25.2 acre site. An access road would have to be extended from an existing public road or through a private road easement. The eight acre site would be accessed off of La Barre Meadows Road which runs along the property frontage or through a connection to Site 2.

For Alternative 3, the new site numbers would be 6 and 7 to replace those sites removed from the proposed project. The two new sites included in this alternative are approximately 33.2 acres and would have a maximum yield of 595 units. The proposed project would have a maximum yield of 2,680 units, and Alternative 3 would yield a maximum of 2,744 units, an increase of 69 units. Alternative 3 could meet all of the project objectives with the exception of the objective requiring consenting property owners to participate in the program. Property owner agreement to the RH Combining District was a critical objective of the County Board of Supervisors from the very beginning of the implementation program. Only sites with property owner consent were considered for inclusion in the proposed project.

2.5.4 REDUCED DEVELOPMENT ALTERNATIVE

The Reduced Development Alternative (Alternative 4) removes four of the most environmentally sensitive sites from the program to minimize the environmental effects of implementing the Housing Element Rezone. The purpose of this alternative is to remove the sites with the most physical constraints to development such that the overall environmental impact of the implementing the program is reduced, yet still leaving enough opportunity to for the County to meet the required Regional Housing needs and state law. The sites that have the most physical constraints were removed to decrease impacts on biological resources, cultural resources, traffic, aesthetics, and other issues that would be adversely affected by development.

The following sites would be removed from the project under this alternative:

Site 7: This site is removed because of physical constraints associated with the property. A tributary to Wolf Creek traverses the southeast portion of the site as well as intermittent streams riparian vegetation on other places throughout the site. Potential historic resources were identified at this site. Additionally, as one of the three largest parcels in the cluster of sites along Brunswick Road, it has one of the highest maximum yield of units at 198 units. Removal of these units would reduce the amount of traffic from this cluster of development. Additionally, this site is located adjacent to the recently approved Loma Rica Ranch Project.

By removing this site from the program it would provide an additional visual and physical buffer from the future development on the Loma Rica Ranch site.

Site 8: This site has similar physical constraints as those described for Site 7 and has been removed from the program for the same reasons. A tributary to Wolf Creek traverses the site near the center of the property which substantially restricts the amount of area available for development due to wetland protection requirements. Intermittent wetlands also are located along the property frontage of Brunswick Road which would result in potential wetland impacts associated with roadway improvements.

Site 14: This site is removed because of physical constraints on the property. This site contains a well-developed blue oak woodland over approximately 80% of the site which makes avoidance difficult. The project site is located on a hillside which would require grading with manufactured slopes that would be visible from SR 49.

Site 17: This site is removed because of the physical constraints associated with developing the property. The site is bisected by Ragsdale Creek and has a wide riparian zone associated with the creek that would make avoidance difficult. The site also contains sensitive black oak dominated woodland outside the riparian zone. Ragsdale Creek is potential habitat for sensitive aquatic species.

This alternative would reduce the total acreage of properties in the program by 37.36 acres or 25%. The maximum number of units would be reduced by 637 units or 24%.

The Reduced Development Alternative would be able to satisfy a majority of the project objectives as well as provide the County with enough area to meeting the Regional Housing Needs requirements and satisfy state law for providing adequate multi-family housing development opportunities.

2.5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative in an EIR, which is an alternative that would result in the fewest or least significant environmental impacts. If the "No Project" Alternative is the environmentally superior alternative, *CEQA Guidelines* Section 15126.6 (e)(2) requires that another alternative that could feasibly attain most of the project's basic objectives be chosen as the environmentally superior alternative. Based on the above analysis, summarized in Table 6-1, the environmentally superior alternative is the Reduced Development Alternative. The majority of impacts would be the reduced compared to those identified for the proposed project. Specifically, impacts associated with land use and planning; aesthetics; air quality; biological resources; cultural resources; hydrology and water quality; noise; public services, utilities and service systems; and transportation/traffic would be reduced under the Reduced Development Alternative.

2.6 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

CEQA Guidelines Section 15123 requires that EIRs summarize areas of controversy known to the lead agency and issues to be resolved. Issues were identified during both the Notice of Preparation (NOP) review period and the public scoping meeting.

Two areas of controversy were identified during the NOP comment period:

1. A letter from the City of Grass Valley questioned whether a large concentration of proposed high density housing should be located in one area (Brunswick Road)

adjacent to the City of Grass Valley; forcing the City to accommodate the increased demand on infrastructure and increased traffic volumes.

2. A resident from the Broken Oak Court neighborhood in the Penn Valley area questioned whether more high density housing was needed or appropriate in that area.

Comment letters received from organizations and agencies in response to the NOP are presented in Appendix A.

2.7 MITIGATION MONITORING

CEQA requires public agencies to set up monitoring and reporting programs to ensure compliance with those mitigation measures adopted or made as a condition of project approval to mitigate or avoid significant environmental effects identified in an EIR. A Mitigation Monitoring and Reporting Program incorporating the mitigation measures set forth in this document will be considered and acted upon by County decision-makers for adoption concurrent with adoption of the findings of this EIR and prior to a determination on whether or not to approve the proposed project.

2.8 SUMMARY TABLE

Table 2-1, *Summary of Impacts and Mitigation*, which begins on the following page, provides a summary of the potentially significant impacts identified in this EIR for the proposed project, the level of significance before mitigation, proposed mitigation measures, and the level of significance after mitigation.

The following mitigation measures are intended to outline the anticipated responsible agency that has jurisdictional oversight of the regulations, specifications and design standards that apply to the required improvement. Sites 1-9 are located within the City of Grass Valley Sphere of Influence, and it is anticipated that they will require annexation prior to development, and therefore, the City is listed as the implementing/monitoring agency for the mitigation measures that apply to those sites. In the event that these sites do not annex into the City and do not require City services, the implementing/monitoring agency shall automatically default to the County of Nevada. In the event that the mitigation measure requires improvements to a City facility, such as an intersection already within the City limits, the City of Grass Valley shall remain as the implementing and monitoring agency regardless of whether or not the site is eventually annexed into the City.

**Table 2-1
Summary of Impacts and Mitigation**

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Land Use and Planning			
4.2-1 - The Proposed Project could conflict with an applicable land use plan, policy or regulation of an agency with jurisdiction over the project.	Potentially Significant Impact	4.2-1 The County of Nevada shall develop a policy agreement with the City of Grass Valley regarding exchange density calculations between the jurisdictions. The purpose of this agreement is to obtain parity among the jurisdictions regarding the provision of urban high density residential housing to satisfy state mandated housing requirements and other housing or density needs as appropriate. The County shall develop this agreement and submit to the City prior to the issuance of development permits for this first project site. Enforcement / Monitoring Agency: County of Nevada	Significant and Unavoidable Impact. While the mitigation would address the density conflicts with the City of Grass Valley, the conflicts would remain until there was a change in the Grass Valley General Plan. Acceptance of an agreement by the City of Grass Valley or a change in the City's General Plan is outside the jurisdiction of the County and potential conflicts would remain significant.
Aesthetics			
4.3-1 - Grading and construction associated with implementation of the Proposed Project would alter the visual appearance of the project area.	Potentially Significant Impact	The following mitigation measure applies to all sites. 4.3-1 - Construction equipment staging areas shall use appropriate screening (i.e., temporary fencing with opaque material) to buffer views of construction equipment and material, when feasible. Staging locations shall be approved by the County or City Engineer prior to the commencement of construction of each phase of the project. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	Less Than Significant Impact
4.3-2 - Implementation of the Proposed Project may have an adverse effect on a scenic vista.	Less Than Significant Impact	No mitigation required	Less Than Significant Impact
4.3-3 - Project implementation may permanently degrade the existing visual character/quality of the project area.	Potentially Significant Impact	The following mitigation measure applies to all sites. 4.3-3 - Prior to approval of a development proposal for a property within the RH Combining District (or as part of the annexation request for Sites 1-9), the project shall require design review approval by the Planning Commission to ensure landscaping, lighting, parking, layout and building design are compatible with the surrounding development, natural resources, and/or historic features within the project area. However, since the density of development is determined at the time the site is rezoned to add the RH	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Combining District, design review will not include a review of the density of the project. The density shall be based on the State mandated 16-units minimum per acre but will allow for a maximum of 20-units per acre on sites within the Grass Valley Sphere of Influence.</p> <p>All future developments associated with the proposed project would be required to follow the specific design principles and standards that respect the goals, objectives, and policies of the Nevada County General Plan and the City of Grass Valley 2020 General Plan, as well as any area plan design guidelines that each site may be located within. Such design guidelines will ensure each development is providing a balance between development and the natural environment.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	
<p>4.3-4 - The Proposed Project may generate additional sources of light and glare beyond existing conditions from urban lighting and vehicular traffic.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies to all sites.</p> <p>4.3-4 - For all future projects in the in the proposed project area, all potentially reflective building materials and surfaces shall be painted or otherwise treated to minimize reflectivity, except as necessary to achieve desired green building objectives. All glass used on external building walls shall be low-reflectivity.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	<p>Less Than Significant Impact</p>
<p>Cumulative Impact - Project implementation may permanently degrade the existing visual character/quality of the project area.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies to all sites.</p> <p>Implement Mitigation Measures 4.3-1, 4.3-3 and 4.3-4.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	<p>Less Than Significant Impact</p>
Biological Resources			
<p>4.4-1 - The Proposed Project has the potential to adversely affect special-status plant species.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies to Sites 2, 3, 7 through 13, 17, and 18.</p> <p>4.4-1a - Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning</p>	<p>Less Than Significant Impact</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Department (or City of Grass Valley Planning Department for Sites 2, 3, 7, 8 and 9):</p> <p>Designate wetland and riparian habitat areas an Environmentally Sensitive Area (ESA) consistent with the ESA exhibits shown in Section 3.0 of this EIR on all Site Plans, grading plans, or any permit authorizing construction for a property within the RH Combining District. No construction shall be permitted within the ESAs, unless as part of a management plan consistent with Nevada County Land Use and Development Code Section L-II 4.3.17, is approved by the County Planning Department. For projects located within the Grass Valley SOI, a Wetland and Riparian Mitigation Monitoring Program shall be approved by the City Planning Department. The boundaries of the ESAs shall be clearly shown on all final plans and specifications.4.4-1b - During ground disturbance activities associated with the Grass Valley sites, the construction contractor shall comply with CARB’s Airborne Toxic Control Measures (ATCM) addressing NOA (Section 93105 and 93106 of Title 17 of the California Code of Regulations). These ATCMs regulate construction, grading, quarrying, and surface mining operations, as well as surfacing applications.</p> <p>Enforcement / Monitoring Agency: For Sites 2, 3, 7-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-13, 17, and 18.</p> <p>The following mitigation measure applies to all sites:</p> <p>4.4-1b Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):</p> <p>i) Conduct focused special status plant surveys within and adjacent to (within 100 feet, where appropriate) the proposed impact area, which will include impacts from project construction (temporary construction zone and staging areas) or by post-construction fuel management. Surveys shall be conducted during the appropriate time of year to determine the presence of special-status plant</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>species that have been identified as potentially occurring on the project site. Surveys shall be conducted in accordance with the Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000). Field surveys shall be scheduled to coincide with known flowering periods (for the specific species) and/or during periods of physiological development that are necessary to identify the plant species of concern. According to the known blooming periods, surveys would need to be conducted in May or June and again in July or August; however, unusual weather may affect blooming periods so reference sites should be checked.</p> <p>It is important for the required plant survey to be scheduled in time to allow for salvage and transplantation, if required, prior to initiation of project grading. Specifically, if construction is to be initiated during or prior to September in any year, the survey will need to be completed during the previous calendar year in order to satisfy the mitigation measure requirements. Project approval conditions should include language that alerts project proponents to this circumstance to avoid costly construction delays.</p> <p>The survey report, including a description of methods, map of area surveyed, results, and a complete list of all plant taxa found during the survey, shall be provided to County staff prior to initiation of any grading or equipment operation. If no occurrences of special-status species are found, no further mitigation is required.</p> <p>ii) If any federally or state-listed, CNPS Rare Plant Rank 1 or 2 plant species are found within or adjacent to (within 100 feet) the proposed impact area during the surveys, the CDFW (in the case of state-only listed plants) and/or USFWS (in the case of federally listed plants), as applicable, shall be notified regarding the status and location of the plant and the necessary approval and/or permits obtained. These plant species shall be avoided to the extent feasible. Avoidance measures shall include fencing of the population(s) before construction, exclusion of project activities from the fenced-off areas (no ingress of personnel or equipment), and construction monitoring</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>by a qualified biologist. Avoidance areas shall be identified on project plans. If these plants cannot be avoided completely, the following mitigation measures shall be applied:</p> <ul style="list-style-type: none"> • Before the approval of grading plans or any groundbreaking activity within the project site, the project developer shall submit a mitigation plan concurrently to the CDFW (in the case of state-only listed plants) and/or USFWS (in the case of federally listed plants) for review and comment, and the developer may consult with these entities before approval of the plan. The plan shall include mitigation measures for the population(s) to be directly affected. Possible mitigation for the population(s) that would be removed during construction of the project includes implementation of a program to transplant, salvage, cultivate, or re-establish the species at suitable sites. The mitigation ratio for directly impacted plant species shall be at a minimum ratio of 2:1. The actual level of mitigation may vary depending on the sensitivity of the species (its rarity or endangerment status), its prevalence in the area, and the current state of knowledge about overall population trends and threats to its survival. Alternatively, replacement credits may be purchased by the project developer at an approved mitigation bank should such credits be available. • Transplantation of existing special-status plants could be undertaken to move the plant(s) to a suitable habitat location, either within the project site or at an off-site preserve to be protected in perpetuity. The off-site preserve shall include similar soil, climate, and associated plant species as are currently present at the project site. This location will be protected in perpetuity under a conservation easement and managed appropriately to ensure the transplantation is a success. Please note, however, that for some species transplantation may not be a successful or effective method for conservation, as requirements for some species are highly specialized and not clearly understood. Thus, transplantation shall only be used where success can be assured. Avoidance shall be required for special-status plant species that cannot 	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>be transplanted, salvaged or cultivated.</p> <ul style="list-style-type: none"> If on-site preservation is determined to be feasible, a conservation easement shall be placed over project open space areas to preserve the mitigation areas in perpetuity. <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p> <p>The following mitigation measure applies to all sites.</p> <p>4.4-1c Appropriate Permits: Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall demonstrate, to the satisfaction of the Director of the County Planning Department, that the project developer has obtained all permits and authorizations required by federal, state, regional and local jurisdictions to proceed with their development proposals. These could include incidental take permits that set forth specific measures to minimize, avoid, or fully mitigate impacts to listed species. This should also include, for sites with mapped ESAs, a demonstration of how the development footprint will avoid all ESAs on the project site. Measures could also include limiting operating periods such as prohibiting grading during the wet season (October to May), requiring 100 foot buffers to disturbance and fencing for sensitive areas, design revisions, and species relocation by soil salvage, seed collection, or other means approved by the agencies with jurisdiction. Prior to development of any individual site, additional species could be listed or designated as special-status, and the future developers of the Housing Element Rezone Implementation Program project sites shall comply with any new requirements of the USFWS or CDFW for such species, as may be imposed through subsequent consultation, if necessary.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	
4.4-2 - The Proposed Project has the potential to adversely affect special-	Potentially Significant Impact	The following mitigation measure applies to Sites 2 through 18:	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
status wildlife species.		<p>Valley Elderberry Long Beetle</p> <p>4.4-2a Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 3-9):</p> <p>Conduct surveys for the elderberry shrub VELB host plant prior to site disturbance within riparian or wetland areas depicted in the ESA figures in Section 3.0: Project Description. Prior to development, any elderberry shrubs measuring 1.0 inch or greater in diameter shall be mapped and clearly marked in the field. At all times during development of the project, developers shall comply with the conservation guidelines set forth in USFWS's Conservation Guidelines for the Valley Elderberry Longhorn Beetle (July 9, 1999), which guidelines generally require a buffer of 100 feet around each elderberry shrub with stems measuring 1.0 inch or greater in diameter at ground level. If encroachments into the ESA are required, consultation with USFWS shall be required as contemplated by USFWS 1999 Guidelines. Mitigation for impacts on VELB habitat shall be determined via consultation with USFWS pursuant to Section 7, Section 10, or USFWS 1999 Guidelines, as applicable, and may include onsite mitigation planting or the purchase of mitigation credits from an approved conservation bank. To avoid adverse effects on VELB, Mitigation Measures 4.4-1a, and 4.4-1c shall be implemented to ensure avoidance of elderberry shrubs and appropriate protection for this species. If necessary, agency-approved mitigation developed through the permitting process would establish the appropriate and required mitigation for impacts to this species. Note: If VELB is de-listed by the USFWS or if there is any change in the listing status of this species, the USFWS guidance in effect at the time of site development shall be followed for impacts to VELB and elderberry shrubs. Additionally, if development does not occur within 5 years on any of the proposed project sites, additional surveys would be required upon development to reassess the location of the elderberry shrub VELB.</p> <p>Enforcement / Monitoring Agency: For Sites 2-9, City of</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p> <p>The following mitigation measure applies to all sites:</p> <p>4.4 -2b Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):</p> <p>Conduct Pre-construction Surveys for Nesting Birds. The future developers within the RH Combining District shall avoid disturbance to active nests within or near disturbance areas. To avoid take of any active raptor nest or disturbance of other protected native birds, to the extent feasible, site disturbance shall be avoided from March 1 through August 31, which coincides with the typical nesting season for most common bird species in the region.</p> <p>If construction, grading or other project-related activities will occur during the typical nesting season, a pre-construction nesting survey shall be conducted by a qualified wildlife biologist to determine if any raptors or protected native birds are nesting in or in the immediate vicinity of vegetation that will be removed. The survey shall be conducted within 15 days prior to the start of work from March through May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through August. If active nests are found in the work area, the biologist shall determine an appropriately sized buffer around the nest in which no work shall be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the biologist, and if necessary, in consultation with the CDFW (and USFWS as appropriate). Buffer widths shall be determined based on the nesting species and its sensitivity to disturbance. The no-work buffer zone shall be delineated by highly visible temporary construction fencing.</p> <p>Monitoring of nest activity by a qualified biologist may be required if the project-related construction activity has potential to adversely affect the nest or nesting behavior of</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>the bird. No project-related construction activity shall commence within the no-work buffer area until a qualified biologist confirms that the nest is no longer active.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p> <p>The following mitigation measure applies to all sites:</p> <p>4.4-2c Protect Special-Status Wildlife Species: Where construction of future development projects within RH Combining District would occur within or near known or potential habitat for special-status species, as defined the following measures shall be implemented:</p> <p>Employ Approved Biological Monitors: Prior to commencement of grading for any phase of the project or portion thereof, a project biologist should be designated as an environmental monitor. The qualified biologist should be approved by the County and shall be present at clearing and grubbing stage or as mandated through the regulatory permitting process. Qualified biologists shall be responsible for pre-construction surveys, staking sensitive resources, onsite monitoring, documentation of violations and compliance, coordination with contract compliance inspectors, and post-construction documentation.</p> <p>Foothill Yellow-legged Frog. Suitable breeding, aestivation, and dispersal habitat for the foothill yellow-legged frog is present along perennial waterways within several of the proposed rezone sites. If disturbance would occur within 100 feet of known or potential habitat for foothill yellow-legged frog (i.e., perennial streams), pre-construction surveys shall be conducted to determine if this species is present in the disturbance area. If surveys determine that foothill yellow-legged frogs are present, a determination shall be made in consultation with CDFW as to whether or not construction would adversely impact this species and what measures shall be implemented. Measures could include limited operating periods, BMPs to avoid habitat impacts, disturbance exclusion zones, or other measures approved by CDFW.</p> <p>Western Pond Turtle. Potential basking, foraging, and</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>dispersal habitat for the western pond turtle is present along perennial waterways within some of the RH Combining District. Where disturbance would occur within 200 feet of potential habitat for western pond turtle (i.e., near perennial streams), pre-construction surveys shall be conducted to determine whether the proposed disturbance would adversely affect this species. This determination shall be made by a qualified biologist based on the suitability of the affected habitat for this species and/or the presence or absence of this species in the affected area as determined by surveys of suitable habitat. If pond turtles are observed, a determination shall be made in consultation with CDFW as to whether or not construction will adversely impact this species and what measures shall be implemented. Measures could include limited operating periods, BMPs to avoid habitat impacts, disturbance exclusion zones, relocation, or other measures approved by CDFW.</p> <p>Other Special-Status Wildlife Species. Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall demonstrate, to the satisfaction of the Director of the County Planning Department, that the site has been assessed for habitat suitability for special-status species of wildlife and that appropriate surveys have been carried out, as necessary, and according to the protocol of State or federal agencies with jurisdiction over the special-status species under review. Should any special-status species be identified, the developer shall retain a qualified biologist to develop and oversee implementation of a management plan. Depending on the species identified, appropriate measures could include avoidance, impact minimization, relocation or other measures and must incorporate measures to satisfy regulatory requirements of agencies with jurisdiction over the species at issue (Mitigation Measure 4.4-1b). Where onsite avoidance is feasible, barrier fencing, stakes, flagging or other measures shall be implemented prior to site disturbance to ensure impacts are avoided.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>4.4-3 The Proposed Project has the potential to directly impact wetlands and riparian areas due to vegetation removal and to indirectly affect wetlands by altering hydrology, increasing erosion and sedimentation, and/or adversely affecting water quality.</p>	<p>Less than Significant Impact</p>	<p>The following mitigation measure applies to Sites 2, 3, 7, 8 within the Grass Valley SOI.</p> <p>4.4-3a Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the Grass Valley Planning Department:</p> <p>Develop and implement a Wetland and Riparian Mitigation Monitoring Program that provides measures that avoid, minimize, and compensate for damages and/or losses of wetland and riparian vegetation resulting from the future development proposals by completing the following:</p> <ul style="list-style-type: none"> • Avoidance of wetlands and riparian areas through project design. • Maximum avoidance of wetlands and riparian areas by including fencing and using appropriate buffer zones during construction activities. Unless otherwise required through consultation with state and federal agencies, the minimum development-free setback from the top of creek bank for linear water features shall be 50 feet. For non-linear wetlands or Waters of the U.S., the minimum development-free setback shall be 25 feet. Development-free shall mean building construction and grading. • Provide measures for creek enhancement and added habitat value. • If wetlands cannot be avoided, a minimum 1:1 replacement ratio to compensate for lost extent and functioning of wetland areas. • Supervision and verification of the implementation of adopted measures, including provisions for an onsite Environmental Monitor (a qualified biologist approved by the City, USFWS and CDFW) during construction activities. <p>Unavoidable direct impacts on wetland vegetation types during construction of future development projects on Sites 2, 3, 7, and 8 shall require consultation with the appropriate jurisdiction (USACE and RWQCB) and would require a permit from these agencies. Potential impacts shall be mitigated by restoration of the affected area to</p>	<p>Less Than Significant Impact</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>pre-construction conditions, offsite compensatory mitigation, or purchase of credits in a mitigation bank, in accordance with permits issued by the ACOE, RWQCB and CDFW.</p> <p>Enforcement / Monitoring Agency: For Sites 2, 3, 7, 8, City of Grass Valley, if annexed; County of Nevada if not annexed.</p> <p>The following mitigation measures apply to Sites 10 – 13, and 17:</p> <p>4.4-3b Where potential wetland impacts are involved, the following mitigation measure would apply.</p> <p>A formal wetland delineation shall be conducted for areas that will be permanently or temporarily impacted by the proposed project including driveway improvements where access to the site would otherwise be prohibited. If jurisdictional waters cannot be avoided, the project developer shall apply for a CWA Section 404 permit from the USACE and a Section 401 permit from the RWQCB. These permits shall be obtained prior to issuance of grading permits and implementation of the proposed project.</p> <p>The project developer shall ensure that the project will result in no net loss of waters of the U.S. by providing mitigation through impact avoidance, impact minimization, and/or compensatory mitigation for the impact, as determined in the CWA Section 404/401 permits. Mitigation must also be consistent with any permitting requirements of the CDFW Section 1602 Streambed Alteration Agreement.</p> <p>Compensatory mitigation may consist of (a) obtaining credits from a mitigation bank; (b) making a payment to an in-lieu fee program that will conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities; these programs are generally administered by government agencies or nonprofit organizations that have established an agreement with the regulatory agencies to use in-lieu fee payments collected from permit applicants; and/or (c) providing compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity. This last type of compensatory mitigation may be provided at</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>or adjacent the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The project proponent/permit applicant retains responsibility for the implementation and success of the mitigation project. Written documentation of compliance with this mitigation measure shall be provided to the County prior to construction and grading activities for the proposed project.</p> <p>Enforcement / Monitoring Agency: County of Nevada.</p>	
<p>4.4-4 The Proposed Project has the potential to indirectly impact sensitive aquatic habitat as a result of erosion, sedimentation, and/or contamination.</p>	<p>Potentially Significant Impact.</p>	<p>The following mitigation measure applies to Sites 2-9, 10-13, 17, and 18: Implement Mitigation Measures 4.4-1a, 4.4-3a and 4.4-3b. Enforcement / Monitoring Agency: For Sites 2-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-13, 17, and 18.</p>	<p>Less Than Significant Impact</p>
<p>4.4-5 The Proposed Project would impact oak woodland habitat</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies to Sites 13 through 18: 4.4-5 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall prepare an oak woodland Management Plan (Management Plan) as required under the Nevada County Tree Preservation and Protection Ordinance. The Management Plan shall specify measures to mitigate for the loss of oak woodland habitat values as a result of site development to ensure no net loss of oak woodland habitat. Measures could include preservation of onsite oak woodlands in a conservation easement, purchase and preservation of offsite oak woodlands, on or offsite enhancement of degraded oak woodlands, or by paying in-lieu fees into a County-approved fund used to purchase and preserve comparable oak woodland communities in the region. The Management Plan shall also include measures to protect trees during construction and following site development. Measures could include specifications for protective fencing and construction buffers, project design modifications, woodland maintenance prescriptions for fuel reduction, forest health, and habitat improvements, and specifications for appropriate uses of the woodland area following site development. The plan shall identify financial</p>	<p>Less Than Significant Impact</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		responsibility and funding sources for all measures. Enforcement / Monitoring Agency: County of Nevada.	
Air Quality			
4.5-1 – The Proposed Project would result in temporary construction related dust and vehicle emissions during construction within the project area.	Potentially Significant Impact	<p>The following mitigation measures apply to all sites.</p> <p>4.5-1a Prior to the issuance of grading permits, all construction contracts shall include dust control mitigation requirements. All construction contracts shall require the following:</p> <ul style="list-style-type: none"> ▪ All construction activities shall be subject to the requirements of the NSAQMD’s Regulation 2, Rule 226 regarding dust control. ▪ Alternatives to open burning of vegetative material on the project site shall be used unless deemed infeasible by the NSAQMD. Suitable alternatives are chipping, mulching, or conversion to biomass fuel. ▪ Contractors shall be responsible for ensuring that adequate dust control measures are implemented in a timely manner during all phases of project development and construction. ▪ All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or violation of an ambient air standard. Watering shall occur at least twice daily, with complete site coverage, preferably in the mid-morning and after work is completed each day. ▪ All areas (including unpaved roads) with vehicle traffic shall be watered or have a dust palliative applied as necessary for stabilization of dust emissions. ▪ All onsite vehicle traffic shall be limited to a speed of 15 mph on unpaved roads. ▪ All land clearing, grading, earth moving or excavation activities shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 miles per hour. Temporary traffic control shall be provided during all phases of the construction to improve traffic flow as deemed appropriate by the County and/or applicable local agencies. 	Significant and Unavoidable Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> ▪ Construction activities shall be scheduled to direct construction traffic flow to off-peak hours as much as possible. ▪ All inactive portions of the construction site shall be covered, seeded, or watered until a suitable cover is established. Alternatively, apply nontoxic soil stabilizers (according to manufacturer’s specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with County standards. Acceptable materials that may be used for chemical soil stabilization include petroleum resins, asphaltic emulsions, acrylics, and adhesives, which do not violate Regional Water Quality Control Board or California Air Resources Board standards. ▪ Track-out devices (e.g., gravel pads, wheel shakers, etc.) or wheel washers shall be installed where project vehicles and/or equipment enter and/or exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed prior to each trip, as necessary to prevent visible dust emissions from adhering dirt or deposition on roadways. ▪ All material transported offsite shall be either sufficiently watered or securely covered to prevent public nuisance. ▪ Ground cover shall be re-established onsite through seeding and watering in accordance with the local grading ordinance. ▪ All mobile and stationary equipment shall be properly maintained. ▪ The County shall require projects to utilize best management practices and the use of construction equipment that meets applicable non-road diesel fuel emission standards. <p>4.5-1b The following measures shall be implemented by the contractor to reduce ROG emissions resulting from application of architectural coatings:</p> <ul style="list-style-type: none"> ▪ Use high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50 percent; 	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> ▪ Use required coatings and solvents with a low ROG content VOC pursuant to the limits in the U.S. EPA National Architectural Coating Rule (40 CFR Part 59); and ▪ Use pre-painted construction materials. <p>4.5-1c During ground disturbance activities associated with the Grass Valley candidate sites, the construction contractor shall comply with CARB's Airborne Toxic Control Measures (ATCM) addressing Naturally Occurring Asbestos (NOA) (Section 93105 and 93106 of Title 17 of the California Code of Regulations). These ATCMs regulate construction, grading, quarrying, and surface mining operations, as well as surfacing applications. It should be noted that this mitigation measure applies to the candidate sites within the Grass Valley sphere of influence. NOA is not anticipated to occur within the candidate sites in Penn Valley or Lake of the Pines.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	
<p>4.5-2 – The Proposed Project could result in an overall increase in local and regional mobile and stationary source emissions, which may exceed air quality standards.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measures apply to all sites.</p> <p>4.5-2a Prior to the approval of any site plans, the Planning Director or City of Grass Valley Planning Director for Sites 1-9 shall confirm that all project plans incorporate the suggested mitigation measures for mobile source emissions identified in the <i>NSAQMD Draft Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects</i> (Draft Guidelines). These measures include the following:</p> <ul style="list-style-type: none"> ▪ Streets shall be designed to maximize pedestrian access to transit stops. ▪ Provide for onsite road and offsite bus turnouts, passenger benches, and shelters as demand and service routes warrant subject to review and approval by local transportation planning agencies. ▪ Larger projects may be required to contribute a proportionate share to the development and/or continuation of a regional transit system. Contributions may consist of dedicated right-of-way, capital improvements, easements, etc. 	<p>Significant and Unavoidable Impact</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> ▪ Provide for pedestrian access between bus service and major transportation points within the project, and between separate sections of the project, where feasible. ▪ Contribute to traffic-flow improvements (i.e., right-of-way, capital improvements, etc.) that reduce emissions and are not considered as substantially growth inducing. ▪ Larger projects may be required to provide for, contribute to, or dedicate land for the provision of offsite bicycle trails linking the project to designated bicycle commuting routes in accordance with an adopted citywide or countrywide bikeway plan. <p>4.5-2b Only natural gas/liquefied petroleum gas (LPG) fireplaces or stoves shall be permitted within the candidate sites. EPA Phase II-certified wood-burning fireplaces or stoves may be used if natural gas/LPG fireplaces or stoves are considered infeasible based on consultation with the County and NSAQMD. Conventional open-hearth fireplaces shall not be permitted.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	
4.5-3 - The Proposed Project could result in an overall increase in odors within the project area.	Less Than Significant Impact	No mitigation required	Less Than Significant.
4.5-4 - Carbon monoxide hot spots may occur as a result of the LRR specific plan.	Less Than Significant Impact	No mitigation required	Less Than Significant.
4.5-5 - The project may not be consistent with the air quality attainment plan (AQAP) criteria.	Potentially Significant Impact	<p>The following mitigation measure applies to all sites: Implement Mitigation Measures 4.5-1a, 4.5-1b, 4.5-1c, 4.5-2a, and 4.5-2b.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	Significant and Unavoidable Impact
Cumulative Impact - The project would result in additional vehicular travel to and from the project sites, with the	Potentially Significant Impact	<p>The following mitigation measure applies to all sites: Implement Mitigation Measures 4.5-1a, 4.5-1b, and 4.5-2.</p>	Significant and Unavoidable Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
resultant exhaust emissions that contain ozone precursors and particulate matter. The County is within an area classified as nonattainment for Federal and State O3 and state PM10 standards.		Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	
Cumulative Impact - Additionally, the Housing Element Rezone's GHG emissions in combination with GHG emissions from other known and reasonably foreseeable project would result in a greater amount of GHG emissions. Therefore, the amount of cumulative GHG emissions would be cumulatively considerable, and would potentially hinder the intent and statewide reduction goals of AB 32.	Potentially Significant Impact	No additional mitigation has been identified.	Significant and Unavoidable Impact
Greenhouse Gas Emissions			
4.6-1 – Greenhouse gas emissions generated by the project would not have a significant impact on the environment.	Potentially Significant Impact	No additional mitigation has been identified.	Significant and Unavoidable Impact
4.6-2 – Implementation of the Proposed Project would not conflict with an applicable greenhouse gas reduction plan, policy, or regulation.	Less Than Significant Impact	No additional mitigation has been identified.	Less Than Significant Impact
Cultural Resources			
4.7-1 - The Proposed Project could potentially result in the damage or destruction of unique archaeological resources, as defined by Public Resources Code §21083.2(g), and historical resources, as defined by CEQA Guidelines §15064.5(a).	Potentially Significant Impact	The following mitigation measure pertains to Sites 2, 3, 7-9, 11 and 13. 4.7-1 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9): Establish areas with potentially significant cultural resources as Environmentally Sensitive Areas consistent with the mapped areas in Figures 3-15 through 3-24 of this EIR. Prior to construction, all potential prehistoric and historic resources shall be designated as an ESA on project plans and specifications. No construction shall be permitted within	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the ESAs. Enforcement / Monitoring Agency: For Sites 2, 3, 7-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 11 and 13.	
4.7-2 - The Proposed Project could potentially result in the damage or destruction of unknown paleontological resources.	Potentially Significant Impact	The following mitigation measure applies to all sites. 4.7-2 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall provide, to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9), a letter from a qualified paleontologist that states one of the following: Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work in the immediate vicinity shall be halted or diverted to other areas on the site and the County (or City as applicable) shall be immediately notified. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered paleontological resources. The County (or City as applicable) and the project developer shall consider the recommendations of the qualified paleontologist. The County (or City as applicable), the qualified paleontologist, and the project developer shall consult and agree upon implementation of a measure or measures that the County (or City as applicable), the qualified paleontologist, and the project developer deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by the project developer, qualified paleontologist, and the County (or City as applicable), as well as the Native American tribal representative if relevant, as to the appropriate preservation or mitigation measures. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	Less Than Significant Impact
4.7-3 - The Proposed Project could potentially result in the damage or	Potentially Significant Impact	The following mitigation measure applies to all sites. 4.7-3 Prior to approval of a Site Plan, grading plan, or any	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>destruction of unknown archaeological resources, including human remains.</p>		<p>permit authorizing construction (or as part of the annexation request for sites 1-9) for a property within the RH Combining District, the project developer shall provide, to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9), a letter from a qualified archaeologist that states the following:</p> <p>A. The project developer shall retain a qualified archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, to monitor all initial ground-disturbing activities in native soils or sediments, including all vegetation removal. If no cultural resources are identified during this phase of ground disturbance, and if determined between the qualified archaeologist and the lead agency, monitoring may be reduced to on-call status. If any prehistoric or historic artifacts or other indications of archaeological resources are found during site grading or once project construction is under way, the on-site monitor shall be empowered to temporarily halt or divert construction in the immediate vicinity of the discovery while it is evaluated for significance, and the County (or City as applicable) shall be immediately notified. Construction activities could continue in other areas. The archaeologist shall evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered cultural resources. The County and the project developer will consider the recommendations of the qualified archaeologist. The County (or City as applicable), the qualified archaeologist, and the project developer shall consult and agree upon implementation of a measure or measures that the County, the qualified archaeologist, and the project developer deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by the project developer, the qualified project archaeologist, and the lead agency as to the appropriate preservation or mitigation measures.</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>B. Should cultural resources, other than human remains, be discovered during construction activities when an archaeological monitor is not present, project personnel shall halt such activities in the immediate area and notify a qualified archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology immediately to evaluate the resource(s) encountered and recommend the development of mitigation measures for potentially significant resources consistent with PRC Section 21083.2(i). Construction activities could continue in other areas. The archaeologist shall evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered cultural resources. The County (or City, as applicable) and the project developer will consider the recommendations of the qualified archaeologist. The County (or City, as applicable), the qualified archaeologist, and the project developer shall consult and agree upon implementation of a measure or measures that the County (or City, as applicable), the qualified archaeologist, and the project developer deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by the project developer, the qualified project archaeologist, and the lead agency, as well as the Native American tribal representative if relevant, as to the appropriate preservation or mitigation measures.</p> <p>Should the discovery include Native American human remains, in addition to the required procedures of Health and Safety Code Section 7050.5, PRC Section 5097.98 and California Code of Regulations (CCR) Section 15064.5(e), all work must stop in the immediate vicinity of the find and the Nevada County Coroner must be notified. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Sections 15064.5(d) and (e) shall be followed.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	
Geology and Soils			
4.8-1 - The Proposed Project could expose people or structures to potentially substantial adverse effects including the risk of loss, injury, or death as a result of secondary seismic hazards (ground shaking, differential compaction, liquefaction, seismically induced flooding and landslides).	Potentially Significant Impact	<p>The following mitigation measure applies to all sites:</p> <p>4.8-1 Prior to issuance of grading permits for development projects (or as part of the annexation request for sites 1-9) within the proposed project sites, a design-level investigation should be performed to ensure the findings of the Preliminary Geotechnical Engineering Report for Housing Element Rezone, Nevada County, California have been incorporated in the project design.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	Less Than Significant Impact
4.8-2 - The Proposed Project could result in substantial soil erosion or the loss of topsoil.	Potentially Significant Impact	<p>The following mitigation measure applies to all project sites:</p> <p>Implement Mitigation Measures 4.10-1b and 4.10-1d.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	Less Than Significant Impact
4.8-3 - The Proposed Project could be located on a geologic formation unit or soil that is unstable, or that would become unstable as a result of construction, and potentially result in landslides or subsidence.	Potentially Significant Impact	<p>The following mitigation measure applies to all project sites:</p> <p>Implement Mitigation Measure 4.8-1 and 4.8-3.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p> <p>The following mitigation measure applies to Site 18:</p> <p>4.8-3 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department:</p> <p>Establish areas with slopes greater than 30% as Environmentally Sensitive Areas. Prior to construction, slopes greater than 30% shall be designated as an Environmentally Sensitive Area (ESA) on all Site Plans, grading plans, or any plan authorizing construction for a property within the RH Combining District. No construction</p>	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		shall be permitted within the ESAs, unless as part of a mitigation plan approved by the County. The boundaries of the ESAs shall be clearly shown on all final plans and specifications. Enforcement / Monitoring Agency: County of Nevada.	
4.8-4 - The Proposed Project could be located on expansive soil, as defined in table 18-1-b of the uniform building code (1994), creating substantial risks to life or property.	Potentially Significant Impact	The following mitigation measure applies to all sites: Implement Mitigation Measure 4.8-1. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	Less Than Significant Impact
Hazards and Hazardous Materials			
4.9-1 - The Proposed Project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less Than Significant Impact	No mitigation required	Less Than Significant
4.9-2 - The Proposed Project may create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment.	Less Than Significant Impact	No mitigation required	Less Than Significant
4.9-3 - The Proposed Project may emit hazardous emissions or result in the handling of hazardous materials, substances, or waste within one-quarter mile of a proposed school site.	Less Than Significant Impact	No mitigation required	Less Than Significant
4.9-4 - The Proposed Project would be located within an airport land use plan and could result in a safety hazard for people residing or working in the project area.	Potentially Significant Impact	The following mitigation measure applies to Sites 3 through 9. 4.9-4 All future development in the proposed project proposed within Safety Areas, as designated by the Nevada County Airpark Airport Land Use Compatibility Plan (ALUCP), shall comply with all policies pertaining to safety hazards (including density standards) set forth in the ALUCP on a project-by-project basis, and the recordation of an Avigation Easement.	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Enforcement / Monitoring Agency: For Sites 3-9, City of Grass Valley, if annexed; County of Nevada if not annexed.	
4.9-5 - The Proposed Project may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less Than Significant Impact	No mitigation required	Less Than Significant
4.9-6 - The Proposed Project could expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	Potentially Significant Impact	The following mitigation measure applies to all sites. Implement Mitigation Measures 4.13-1b and 4.13-1c. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	Less Than Significant Impact
Hydrology and Water Quality			
4.10-1 - The Proposed Project could violate water quality standards or waste discharge requirements.	Potentially Significant Impact	<p>The following mitigation measure applies to Sites 10 and 13:</p> <p>4.10-1a Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department:</p> <ul style="list-style-type: none"> ▪ Establish all floodplains as Environmentally Sensitive Areas (ESAs) in compliance with the ESA maps in Chapter 3.0. The placement of structures on sites 10 and 13 must avoid the floodplain ESA. Should development within the floodplain ESA be required, then the developer shall obtain a discretionary use permit for any development within the floodplain and a ministerial management plan for any development within the floodplain 100 foot setback. Prior to construction or vegetation removal, the floodplain ESA shall be designated as an ESA on plans and specifications. All work proposed within the ESA shall not begin until the ESAs are delineated on the ground with orange safety fencing. A biologist shall verify the limits of the ESA fencing on the ground prior to construction. The ESA fences shall remain in place for the entire duration of construction. No earthmoving activities, vehicles, heavy equipment, lay-down areas, or other construction shall be permitted within the ESAs unless as part of a mitigation plan approved by the 	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>appropriate permitting agencies. The boundaries of the ESAs shall be clearly shown on all final plans and specifications.</p> <p>Enforcement / Monitoring Agency: County of Nevada.</p> <p>The following mitigation measure applies to all sites:</p> <p>4.10-1b Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9) prepare a Water Quality Management Plan that implements the following items:</p> <p>Best Management Practices to protect water quality. The contractor shall implement standard Best Management Practices during and after construction. These measures include, but are not limited to:</p> <ul style="list-style-type: none"> a) Construction in or near drainages shall only occur during the dry season. b) Coordination with CDFW, U.S. Army Corps of Engineers, and Regional Water Quality Control Board to obtain all required permits and comply with all terms and conditions of the permits. c) At no time shall heavy equipment operate in flowing water or saturated soils. d) Prior to the start of work, install silt-fencing, straw bales, sediment catch basins, straw or coir logs or rolls, or other sediment barriers to keep erodible soils and other pollutants from entering drainages. Retain existing ground cover to further reduce the potential impacts of the project on erosion along the steep bank. Before the first heavy rains and prior to removing the barriers, soil or other sediments or debris that accumulates behind the barriers shall be removed and transported away for disposal. e) Disruption of soils and vegetation near Squirrel Creek (on sites 10 and 13) shall be minimized to limit potential erosion and sedimentation; disturbed areas shall be graded to minimize surface erosion and siltation; bare 	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>soils shall be immediately stabilized and re-vegetated. Seeded areas shall be covered with broadcast straw or mulch. If straw is used for mulch or for erosion control, utilize only certified weed free straw to minimize the risk of introduction of noxious weeds, such as yellow star thistle.</p> <p>f) The contractor shall exercise every reasonable precaution to protect nearby water bodies from pollution with fuels, oils, bitumen, calcium chloride and other harmful materials, Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into or near these resources and shall be collected and removed from the site. No slash or other natural debris shall be placed in or adjacent to water bodies. All construction debris and associated materials and litter shall be removed from the work site immediately upon completion.</p> <p>g) Provide copies of these BMPs to the Contractors and their workers to assure compliance with mitigation measures during construction.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p> <p>The following mitigation measure applies to all sites: 4.10-1c Prior to approval of a Site Plan, grading plan, or any permit authorizing construction (or as part of the annexation request for sites 1-9) for a property within the RH Combining District, the project developer shall submit, to the satisfaction of the Director of the County Public Works Department (for sites 10-18), or City Engineer (for sites 1-9), a project-specific hydrology report to verify expected pre- and post-project stormwater volumes from the proposed development, projected peak storage capacity of detention basins, and percolation characteristics of the soil. The hydrology reports shall confirm that adequate stormwater conveyance and capacity is available in either the region or onsite basins, depending on the chosen option, as well as no net increase in stormwater flow rate to the County's or City's storm drainage system.</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p> <p>The following mitigation measure applies to Sites 1-9: 4.10-1d Prior to approval of an annexation request for a property within the RH Combining District, the project developer shall submit, to the satisfaction of the City Engineer (for Sites 1-9), a water quality management plan which include measures that filter pollutants from stormwater in order to ensure that discharged water meets applicable City standards, such as:</p> <p>Source Control BMPs</p> <ul style="list-style-type: none"> ▪ Permeable pavers/pavement ▪ Hybrid parking areas/parking groves ▪ Roof runoff controls (i.e., rain barrels) ▪ Efficient irrigation to minimize runoff of excess irrigation water <p>Treatment Control BMPs</p> <ul style="list-style-type: none"> ▪ Vegetated swales within parking lots ▪ Vegetated swales on lots (adjacent to pads) ▪ Bioretention ▪ Hydrodynamic separators/wet vaults ▪ Drain inserts <p>Flow Control BMPs</p> <ul style="list-style-type: none"> ▪ Detention <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed.</p>	
<p>4.10-2 – The Proposed Project would not 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.</p>	<p>Less Than Significant With Mitigation</p>	<p>The following mitigation measure applies to all sites: Implement Mitigation Measure 4.10-1c.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	<p>Less Than Significant Impact</p>
<p>4.10-3 - The Proposed Project could</p>	<p>Potentially</p>	<p>The following mitigation measure applies to all sites:</p>	<p>Less Than Significant Impact</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
substantially alter the existing drainage pattern of the site or area, which could result in substantial erosion or siltation on- or off-site.	Significant Impact	Implement Mitigation Measures 4.10-1b and 4.10-1c. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	
4.10-4 - The Proposed Project could substantially alter the existing drainage pattern of the site or area, which could substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.	Potentially Significant Impact	The following mitigation measure applies to all sites: Implement Mitigation Measures 4.10-1b, 4.10-1c and 4.10-1d. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	Less Than Significant Impact
4.10-5 - The Proposed Project could create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant Impact	The following mitigation measure applies to all sites: Implement Mitigation Measure 4.10-1c. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	Less Than Significant Impact
4.10-6 - The Proposed Project could place housing within a 100-year flood hazard area, or place within a 100-year flood hazard area structures which could impede or redirect flood flows.	Potentially Significant Impact	The following mitigation measure applies to Sites 10 and 13: Implement Mitigation Measure 4.10-1a. Enforcement / Monitoring Agency: County of Nevada.	Less Than Significant Impact
4.10-7 - The Proposed Project could expose people or structures to a significant risk of loss, injury or death involving flooding, including as a result of the failure of a levee or dam.	Potentially Significant Impact	The following mitigation measure applies to Sites 10 and 13: Implement Mitigation Measure 4.10-1a. Enforcement / Monitoring Agency: County of Nevada	Less Than Significant Impact
Noise			
4.11-1 - Construction-related activities resulting from the Proposed Project could generate noise levels in excess of established standards.	Potentially Significant Impact	The following mitigation measures apply to all sites: 4.11-1a Project developers shall ensure through contract specifications that construction best management practices (BMPs) be implemented by contractors to reduce construction noise levels. Contract specifications shall be included in construction documents, which shall be reviewed by the County or City prior to issuance of a grading or building permit (whichever is issued first) or as part of the annexation request for Sites 1-9. The construction BMPs shall include the following: <ul style="list-style-type: none"> • Ensure that construction equipment is properly muffled 	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>according to industry standards and be in good working condition.</p> <ul style="list-style-type: none"> • Place noise-generating construction equipment and locate construction staging areas away from sensitive uses, where feasible. • Implement noise attenuation measures to the extent feasible, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources. • Use electric air compressors and similar power tools rather than diesel equipment, where feasible. • Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. • Construction shall be limited to the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. No construction is permitted on Sundays or legal holidays. • Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the County or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party. <p>4.11-1b Project developers shall require by contract specifications that heavily loaded trucks used during construction would be routed away from residential streets to the extent feasible. Contract specifications shall be included in construction documents, which shall be reviewed by the County prior to issuance of a grading permit.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.11-2 – Construction-related activities resulting from the Proposed Project could generate or expose persons or structures to excessive ground-borne vibration.	Potentially Significant Impact	<p>The following mitigation measure applies to all sites.</p> <p>4.11-2 Future projects shall require by contract specifications that construction staging areas along with the operation of earthmoving equipment would be located as far away from vibration and noise sensitive sites as feasible. Should construction or grading activities take place within 25 feet of an occupied structure, a project specific vibration impact analysis shall be conducted, with appropriate recommendations to ensure vibration levels are below the 0.2 inch-per-second PPV significance threshold at sensitive uses. Contract specifications incorporating this measure shall be included in the proposed project construction documents, which shall be reviewed by the County prior to issuance of a grading permit or by the City as part of the annexation request for Sites 1-9.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	Less Than Significant Impact
4.11-3 - Future noise levels associated with the Proposed Project could contribute to an exceedance of the County's noise standards resulting in potential noise impacts to sensitive receptors.	Less Than Significant Impact	No mitigation required	Less Than Significant Impact.
Cumulative Mobile Noise - The Proposed Project, in conjunction with cumulative projects, would result in significant long-term mobile noise impacts, based on combined and incremental noise levels.	Potentially Significant Impact	<p>The following mitigation measures apply to all sites:</p> <p>Refer to Mitigation Measures 4.11-1a, 4.11-1b, and 4.11-2. Additional mitigation is not required.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	Less Than Significant Impact
Population and Housing			
4.12-1 - The Proposed Project would directly induce population growth in the City of Grass Valley.	Potentially Significant Impact	No feasible mitigation measures have been identified. The County of Nevada does not have land use authority over the City of Grass Valley to amend or alter the City's existing planning policies or the existing General Plan.	Significant and Unavoidable
Public Services, Utilities and Service Systems			
4.13-1 - The public service needs of the	Potentially	The following mitigation measures apply to all sites:	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Proposed Project could result in substantial adverse impacts.</p>	<p>Significant Impact</p>	<p>4.13-1a Prior to the occupancy of any new development, the project developer shall ensure adequate staffing and fire service response times dictated by population.</p> <p>4.13-1b Construction Plan applications (or as part of the annexation request for Sites 1-9) submitted for all sites shall include a vegetation fuel management plan, which addresses overall fuels management for achieving a reduction in wildland fire intensity, subject to review and approval of the Fire Department. The plan shall also address management of the vegetative fuels in those areas that may be considered environmentally sensitive.</p> <p>4.13-1c Prior to the occupancy of any new development, the project developer shall ensure adequate staffing and police or sheriff service response times dictated by population.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	
<p>4.13-2 - The Proposed Project could result in a determination by the wastewater treatment provider that it has inadequate capacity to provide for the project's projected demand in addition to the provider's existing commitments.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies all sites:</p> <p>4.13-2 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction (or as part of the annexation request for Sites 1-9) for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):</p> <p>Provide written documentation that adequate sewer capacity is available for the proposed development. The project developer may provide written documentation that the wastewater treatment plant has been upgraded to increase capacity or a report from a registered civil engineer demonstrating that adequate capacity is available. If adequate sewer capacity does not exist, the developer will pay for WWTP upgrades to account for the additional effluent. The developer may develop a reimbursement agreement, if needed, to recuperate fair-share costs associated with other proposed developments nearby.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	<p>Significant and Unavoidable.</p> <p>This impact remains significant because it is unknown what the capacity of the wastewater treatment facilities would be at the time of project construction. It is also unknown if completion of the required wastewater facility improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>4.13-3 - Sufficient water supplies are available to serve the Proposed Project from existing entitlements and resources; no new or expanded entitlements would be required.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies all sites:</p> <p>4.13-3 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction (or as part of the annexation request for sites 1-9) for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):</p> <p>Provide the County (or the City for Sites 1 through 9) with an approved set of improvement plans accepted by NID, which include the following:</p> <ul style="list-style-type: none"> ▪ Quantification of anticipated water usage by parcel. ▪ A comprehensive water system design for distribution piping and connection to the existing NID distribution system. ▪ Appropriate pipe sizing to accommodate minimum fire flow water pressures (as determined by CAL FIRE, NID, and the HFPD). ▪ Identification of pipe sizing, pipe location, and the location of the tie-in with NID facilities. ▪ Provisions for easement, rights-of-way, and in-fee land to NID for water facilities. <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	<p>Significant and Unavoidable.</p> <p>This impact remains significant and unavoidable because it is unknown what the capacity of the potable water facilities would be at the time of project construction. It is also unknown if completion of the required water infrastructure improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.</p>
<p>4.13-4 - The landfill that would serve the Proposed Project has sufficient permitted capacity to accommodate the project's solid waste disposal needs. The project would comply with federal, state and local statues and regulations related to solid waste.</p>	<p>Less Than Significant Impact</p>	<p>No mitigation required</p>	<p>Less Than Significant.</p>
Recreation			
<p>4.14-1 - The Proposed Project could increase the use of existing neighborhood and regional parks or other recreational facilities.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies to all sites:</p> <p>4.14-1 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction (or as part of the annexation request for sites 1-9) for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass</p>	<p>Less Than Significant Impact</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Valley Planning Department for Sites 1-9): Demonstrate that the proposed development is consistent with the County's Western Nevada County Non-motorized Recreational Trails Master Plan and pay recreation mitigation fees in an amount established by the County. For projects located within the City of Grass Valley SOI, the developer shall provide for community and regional parks consistent with the City's Park and Recreation Master Plan or pay an in-lieu fee in an amount established by the City. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.	
4.14-2 - The Proposed Project would not include the construction of recreational facilities that might have an adverse effect on the environment.	Less Than Significant Impact	No Mitigation required	Less Than Significant
Transportation and Traffic			
4.15-1 - The Proposed Project would result in an increase in traffic at study area intersections and roadway segments. Twenty three study intersections would continue to operate at acceptable levels of service in accordance with n Nevada County and the City of Grass Valley significance criteria during the weekday PM peak hour.	Less Than Significant Impact	No mitigation required	Less Than Significant
4.15-2 - The Proposed Project would add traffic to the intersection of Idaho-Maryland Road and Brunswick Road. This intersection is projected to operate at LOS F (unacceptable) in the PM peak hour.	Potentially Significant Impact	The following mitigation measure applies to Sites 3 through 9: 4.15-2 As described in the Loma Rica Ranch Specific Plan EIR (RBF Consulting, 2011), a roundabout shall be constructed at the intersection of Idaho-Maryland Road and Brunswick Road. This intersection is located on the downhill slope. The installation of a roundabout has been shown to reduce the number and severity of accidents. This mitigation would improve the operation of the intersection to LOS A. The improvement is identified in the Grass Valley Traffic Impact Fee (GVTIF). To mitigate direct traffic impacts on the Idaho-Maryland	Significant and Unavoidable This impact remains significant because it is unknown when the intersection improvement would occur and the construction of the complete improvement may not be feasible for a single project. Furthermore, the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Road and Brunswick Road intersection, a new roundabout is required at this intersection. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the roundabout in its entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement.</p> <p>The individual development of Sites #3, 4, 5, 6, 7, 8 or 9 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation.</p> <p>Timing Implementation: Prior to issuance of a building permit</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed.</p>	
<p>4.15-3 - The Proposed Project would add traffic to the intersection of La Barr Meadows Drive and McKnight Way. This intersection is projected to operate at LOS F on the worst approach (unacceptable) in the PM peak hour.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies to Site 2:</p> <p>4.15-3 The provision of the dual roundabouts on McKnight Way at the SR 49 interchange would improve operation of the intersection to LOS A. This improvement would combine the McKnight Way / La Barr Meadows Road / Auburn Street and McKnight Way / SR 49 Northbound Ramps intersection into one intersection, and the McKnight Way / Taylorville Road and McKnight Way / SR 49 Southbound Ramps intersections into one intersection. Due to the close intersection spacing and the coordinated operation of the intersections, the roundabouts would need to be installed simultaneously in order to adequately accommodate traffic flows. This improvement is identified in the Nevada County Regional Transportation Plan and the City of Grass Valley Capital Improvement Program.</p> <p>To mitigate direct impacts at the La Barr Meadows and McKnight Way intersection dual roundabouts would be required to be constructed. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the required</p>	<p>Significant and Unavoidable</p> <p>This impact remains significant because it is unknown when the intersection improvement would occur and the construction of the complete improvement may not be feasible for a single project. Furthermore, the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>dual roundabouts in their entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement.</p> <p>Site Specific Development Analysis: The individual development of Site #2 would generate 10 or more trips at the intersection and require implementation of the intersection mitigation.</p> <p>Timing Implementation: Prior to issuance of a building permit</p> <p>Enforcement / Monitoring Agency: City of Grass Valley</p>	
<p>4.15-4 - The Proposed Project would add traffic to the intersection of Brunswick Road and Triple Crown Road. This intersection is projected to operate at an overall LOS E and LOS F at the worst approach (unacceptable) in the PM peak hour.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure applies to Sites 3 through 9:</p> <p>4.15-4 The realignment of Triple Crown Road with Town Talk Road into one intersection and the installation of a traffic signal will improve intersections of Brunswick Road and Triple Crown Drive and Brunswick Road and Town Talk Road / Bubbling Wells Road to LOS B during the PM peak hour. The intersection does meet peak hour Caltrans peak hour signal warrant for the installation of a traffic signal under Existing plus Background plus Project conditions. The proposed mitigation includes one additional southbound right turn lane, one southbound left turn lane, one northbound left turn lane and one northbound right turn lane. In addition, the existing unsigned driveway (designated as "Ranchview Court" in County Map data) located approximately 35 feet to the south of Town Talk Road shall be combined with Town Talk Road at the west leg of the intersection.</p> <p>The project developer shall install or fund the improvement at the intersection prior to issuance of a building permit.</p> <p>Site Specific Development Analysis: This improvement would be triggered when the proposed project generates 1 or more trip to the intersection of Brunswick Road and Triple Crown Road. The individual development of Sites #3, 4, 5, 6, 7, 8 or 9 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation.</p> <p>Timing Implementation: Prior to issuance of a building</p>	<p>Significant and Unavoidable</p> <p>While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		permit Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed.	
4.15-5 - The Proposed Project would add traffic to the intersections of SR 49 / Combine Road. This intersection is projected to operate at Los F (unacceptable) in the PM Peak Hour.	Potentially Significant Impact	The following mitigation measure applies to Sites 14 through 18: 4.15-5 The Nevada County Regional Transportation Plan and RTMF includes the following improvements to the SR 49 / Combie Road intersection. The improvements would improve the PM peak hour level of service to LOS C. <ul style="list-style-type: none"> • Construct one additional southbound left turn lane that is at least 325 feet in length • Construct one additional receiving lane at the east leg of intersection on Combie Road • Reconstruct or reconfigure the westbound left turn lanes to be a minimum of 250 feet in length to allow for adequate storage The project developer shall install or fund the improvement at the intersection. The developer and the County of Nevada should enter into a reimbursement agreement for the remaining portion of the improvement costs that are not the project developer's fair share. Site Specific Development Analysis: This improvement would be triggered when the proposed project generates 1 or more trip to the intersection of SR 49 / Combie Road. The individual development of Sites #14, 15, 16, 17, or 18 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation. Timing Implementation: Prior to issuance of a building permit Enforcement / Monitoring Agency: Nevada County	Less Than Significant Impact
4.15-6 – The Proposed Project would add traffic to the intersections of Higgins Road and Combie Road. This intersection is projected to operate at Los F (unacceptable) in the PM peak hour.	Potentially Significant Impact.	The following mitigation measure applies to Sites 14 through 18: 4.15-6 The Higgins Marketplace EIR (2007) identified mitigation for this intersection including of the installation of a traffic signal and the installation of an additional eastbound through lane. Implementation of this mitigation measure would improve level of service to an acceptable LOS C during the PM peak hour.	Less Than Significant Impact.

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Prior to the development of the project site, the Project Developer shall pay a fair share contribution to the LTMF and RTMF program.</p> <p>Site Specific Development Analysis: This improvement would be triggered when the proposed project generates 1 or more trip to the intersection of Higgins Road and Combie Road. The individual development of Sites #14, 15, 16, 17, or 18 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation.</p> <p>Timing Implementation: Prior to issuance of a building permit</p> <p>Enforcement / Monitoring Agency: Nevada County</p>	
<p>4.15-7 – The Proposed Project would add traffic at new driveway intersections which would have restricted sight distance and close spacing and may impact safety and traffic operations.</p>	<p>Potentially Significant Impact.</p>	<p>The following mitigation measure applies to all sites:</p> <p>4.15-7 The sight distances at all project site access intersections shall be reviewed during the design phase of the project sites with attention given to horizontal and vertical sight distance constraints. To maintain adequate corner sight distance consistent with Caltrans Highway Design Manual requirements, parking shall not be permitted on major onsite roadways within close proximity to intersections. All onsite intersections, landscaping, signing, and parking shall be designed so that adequate corner sight distance is achieved.</p> <p>Prior to issuance of a building permit, the developer shall provide verification by a professional engineer that sight distance has been evaluated.</p> <p>Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed. County of Nevada for Sites 10-18.</p>	<p>Less Than Significant Impact</p>
<p>5.2.14.1 - Cumulative Impact - The Proposed Project would add traffic to the signalized intersection of Nevada City Highway and Brunswick Road. This intersection is projected to operate at LOS E (unacceptable) in the PM peak hour.</p>	<p>Potentially Significant Impact</p>	<p>The following mitigation measure pertains to Sites 3 through 9:</p> <p>5.2.14.1 - Prior to issuance of a building permit, the project developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the installation of signal timing at the intersection of Nevada City Highway and Brunswick Road to improve operations and meet future traffic volume demand. Signal timing splits shall be optimized based upon a cycle length of 90 seconds. This mitigation would improve the operation of the intersection to LOS D.</p>	<p>Significant and Unavoidable</p> <p>While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.</p>

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Timing Implementation: Prior to issuance of a building permit Enforcement / Monitoring Agency: City of Grass Valley	
5.2.14.2 - The proposed project would add traffic to the intersection of Brunswick road and Town Talk Road (Sites 7 and 8 access). This intersection is projected to operate at an overall LOS E and LOS F at the worst approach (unacceptable) in the pm peak hour.	Potentially Significant Impact	The following mitigation measure pertains to Sites 3 through 9: 5.2.14.2 Prior to issuance of a building permit, the project developer shall install or fund the realignment of Triple Crown Road with Town Talk Road (Sites 7 and 8 access) into one intersection and the installation of a traffic signal. This measure will improve intersections of Brunswick Road / Triple Crown Drive and Brunswick Road / Town Talk Road / Bubbling Wells Road to LOS C during the PM peak hour. The intersection does meet peak hour Caltrans peak hour signal warrant for the installation of a traffic signal. The proposed mitigation includes one additional southbound right turn lane, one southbound left turn lane, one northbound left turn lane and one northbound right turn lane. The developer and the City of Grass Valley should enter into a reimbursement agreement for the remaining portion of the improvement costs that are not the project developer's fair share. Timing Implementation: Prior to issuance of a building permit. Enforcement / Monitoring Agency: For Sites 1-9, City of Grass Valley, if annexed; County of Nevada if not annexed.	Significant and Unavoidable While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.
5.2.14.3 The Proposed Project would add traffic to the intersection of SR 49 northbound ramps and McKnight Way. This intersection is projected to operate at overall LOS E (unacceptable) in the PM Peak Hour.	Potentially Significant Impact	The following mitigation measure pertains to Site 2: Prior to the development of the project site, the Project Developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program for the provision of the dual roundabouts on McKnight Way at the SR 49 interchange described in Mitigation Measure 4.15-3. Enforcement / Monitoring Agency: City of Grass Valley	Significant and Unavoidable. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.
5.2.14-4 – The proposed project would add traffic to the intersections of the SR 49/Combie Road. This intersection is	Potentially Significant Impact	The following mitigation measure pertains to Sites 14 through 18: 5.2.14-4 Prior to issuance of a building permit, the project	Less Than Significant Impact

Table 2-1, continued

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
projected to operate at LOS E (Unacceptable) in the PM Peak Hour		developer shall pay a fair share contribution to the Nevada County RTMF program for the construction of an additional southbound left turn lane that is at least 325 feet in length shall be installed at the intersection of SR 49 and Combie Road. This improvement will improve operations at the intersection to LOS D during the PM peak hour. The addition of a southbound left turn lane is an identified improvement in the Nevada County Regional Transportation Plan and RTMF. Enforcement / Monitoring Agency: County of Nevada.	

Table 2-1, continued

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3.0 PROJECT DESCRIPTION

3.1 PROJECT BACKGROUND

The County of Nevada Board of Supervisors adopted the most recent update of its Housing Element on May 11, 2010 (for the 2009-2014 cycle) and received certification of the Element from the California Department of Housing and Community Development (HCD) on July 1, 2010. The Housing Element's vacant land inventory found that the County had a deficit in sites that had adequate zoning (R3) to accommodate lower income category of the County's Regional Housing Need Allocation. Recent state law (California Government Code Section 65584.09) requires jurisdictions to rezone property to accommodate their Regional Housing Need Allocation if that jurisdiction's vacant land inventory finds that there are not adequate vacant sites zoned for high density residential to accommodate the low and very low income categories. State law requires that the rezoned sites provide for a minimum density of 16 units per acre and those sites allow the development of higher density housing as an allowed use (not subject to discretionary permits, e.g., conditional use permit, planned unit development plan). In addition, all proposed sites, other than Site 6, will require a site-specific General Plan Map Amendment as well.

In addition to the lack of adequately zoned sites from the most recent planning cycle, the County's previous Housing Element (2003-2008 cycle) also had a rezone program that was not implemented. At that time it was determined that the County had an unmet need of sites suitable for 571 low and very low income units. The current Housing Element determined an unmet need of sites suitable to accommodate 699 units affordable to low and very low income residents. The unmet need of 571 units from the last Housing Element cycle, in addition to the 699 unmet units identified in the current cycle equals the current total unmet need of 1,270 units.

To obtain certification from HCD, County staff was required to complete a vacant land inventory in which potential rezone sites that could be suitable for higher density housing were identified. These sites were identified based on the relative lack of constraints and proximity to local services such as commercial areas with grocery stores, bus stops, and other commercial/retail opportunities. Additionally, County staff performed an extensive outreach process to ensure that the property owners of the sites would be willing participants in rezoning their land to higher density residential. As a result of the outreach effort, the County's list of potential rezone sites was reduced to 18 properties consisting of approximately 149 acres.

A site analysis was prepared for each site to evaluate the physical and regulatory constraints of the property and determine if the selected 17 properties could collectively accommodate the required 1,270 units (at the time the site analysis was conducted only 17 property owners had expressed interest in participating in the program. After several additions and deletions of properties since the site analysis was completed, the total number of properties now participating in the program is 18).

The evaluation of each site consisted of a field visit, research and investigation regarding the existing land use conditions in the surrounding area of each site, a site-specific biological reconnaissance, a cultural resources record search and field reconnaissance, and a general geotechnical investigation. The opportunities and constraints of each site were considered in a numerical scoring system that utilized seven sets of criteria that were created to assess the

suitability of each site. Based on the application of typical building and regulatory constraints, the site analysis concluded that the proposed sites could support the needed 1,270 units. The site analysis can be found as Appendix B to this report.

The site analysis determined the sites to be suitable for development and implementation of the County’s goal to rezone the properties to R3 (high density residential). Based on the site survey, a conceptual building envelope was identified for each site. A theoretical maximum unit count was calculated based on state-mandated minimum default densities of 16 units minimum per acre. The analysis concluded of a total area of 146.25 acres from the 17 sites, approximately 101.6 acres would be available for development. At 16 dwelling units per acre (du/acre), the maximum number of units would be 1,630 units. This number exceeds the 1,270 units the County currently needs to meet its housing element goals. The number of potential units (1,630) could increase or decrease depending on a variety of factors such as the County utilizing a higher density in the zoning overlay zone (e.g., 20 units per acre) or other physical constraints in the field that reduce the development potential of a site.

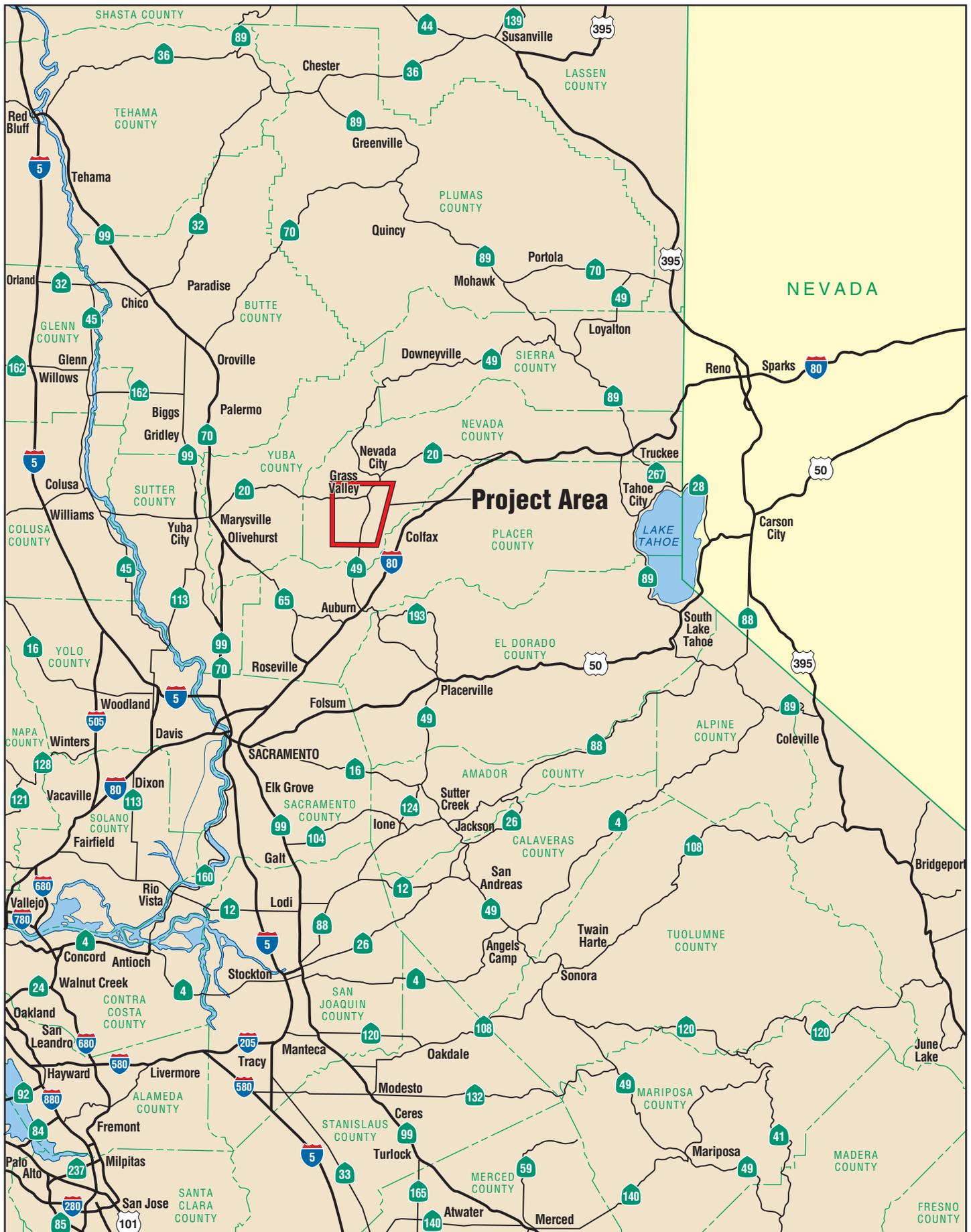
This EIR evaluates multi-family development on each of the sites based on the proposed zoning. The EIR evaluates the buildout of each site based on the maximum yield allowed under the proposed overlay zoning. When future development proposals are received by the County, they will be evaluated against this.

3.2 PROJECT LOCATION

The 18 sites associated with the project are located in the western portion of Nevada County, approximately 50 miles northeast of Sacramento and about 50 miles west of Lake Tahoe (refer to Figure 3-1, *Regional Location Map*). This region of the western Sierra Nevada foothills separates the low-lying Sacramento Valley from the Sierra Nevada Mountains and is characterized by rolling forested hills incised by steep canyons. The sites are located within three general areas of unincorporated Nevada County, California. These areas are generally defined as the Grass Valley Sphere of Influence (Sites 1-9), Penn Valley (Sites 10-13), and the Lake of the Pines Areas (Sites 14-18); refer to Figure 3-2 through Figure 3-4 to identify where the individual sites are located. Aerial photos of each site are included in Figures 3-5 through 3-14. The sites are also identified by Assessor’s Parcel Number in Table 3-1, *Project Sites*, below.

**Table 3-1
 Project Sites**

Grass Valley SOI	Penn Valley Area	Lake of the Pines Area
Site 1: 07-380-17	Site 10: 51-120-06	Site 14: 57-141-29
Site 2: 29-350-12	Site 11: 51-150-29	Site 15: 57-270-02
Site 3: 35-412-15	Site 12: 51-151-62	Site 16: 57-270-03
Site 4: 35-412-17	Site 13: 51-370-02	Site 17: 57-270-06
Site 5: 35-412-18		Site 18: 11-181-03
Site 6: 35-412-19		
Site 7: 35-412-21		
Site 8: 35-550-15 & 34-412-20		
Site 9: 35-412-16		



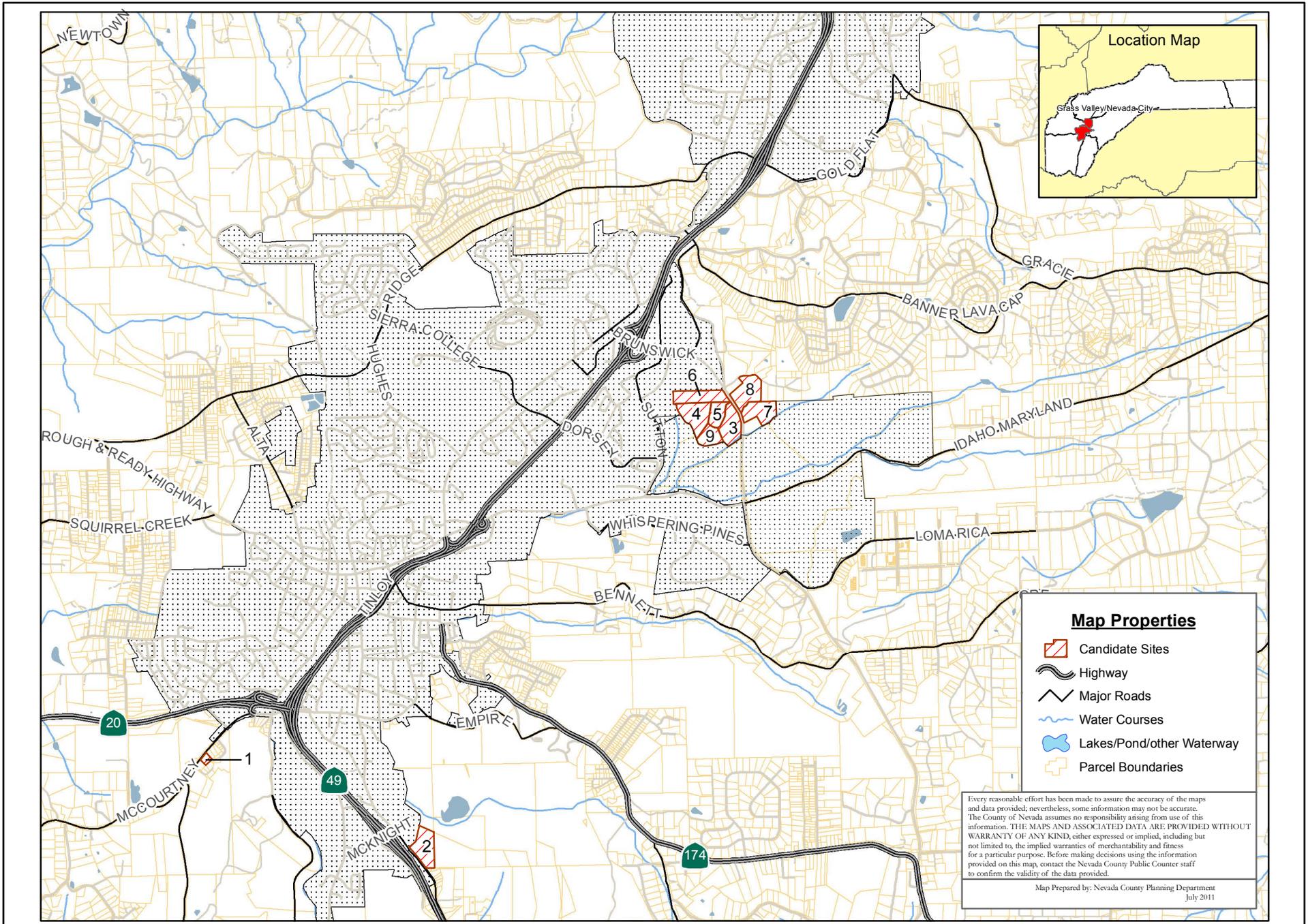
COUNTY OF NEVADA
 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Regional Vicinity

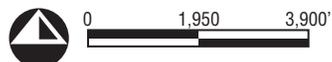
FIGURE 3-1



1/18/13 JN 131242-18945



Source: Nevada County GIS 2012; ESRI 2012.

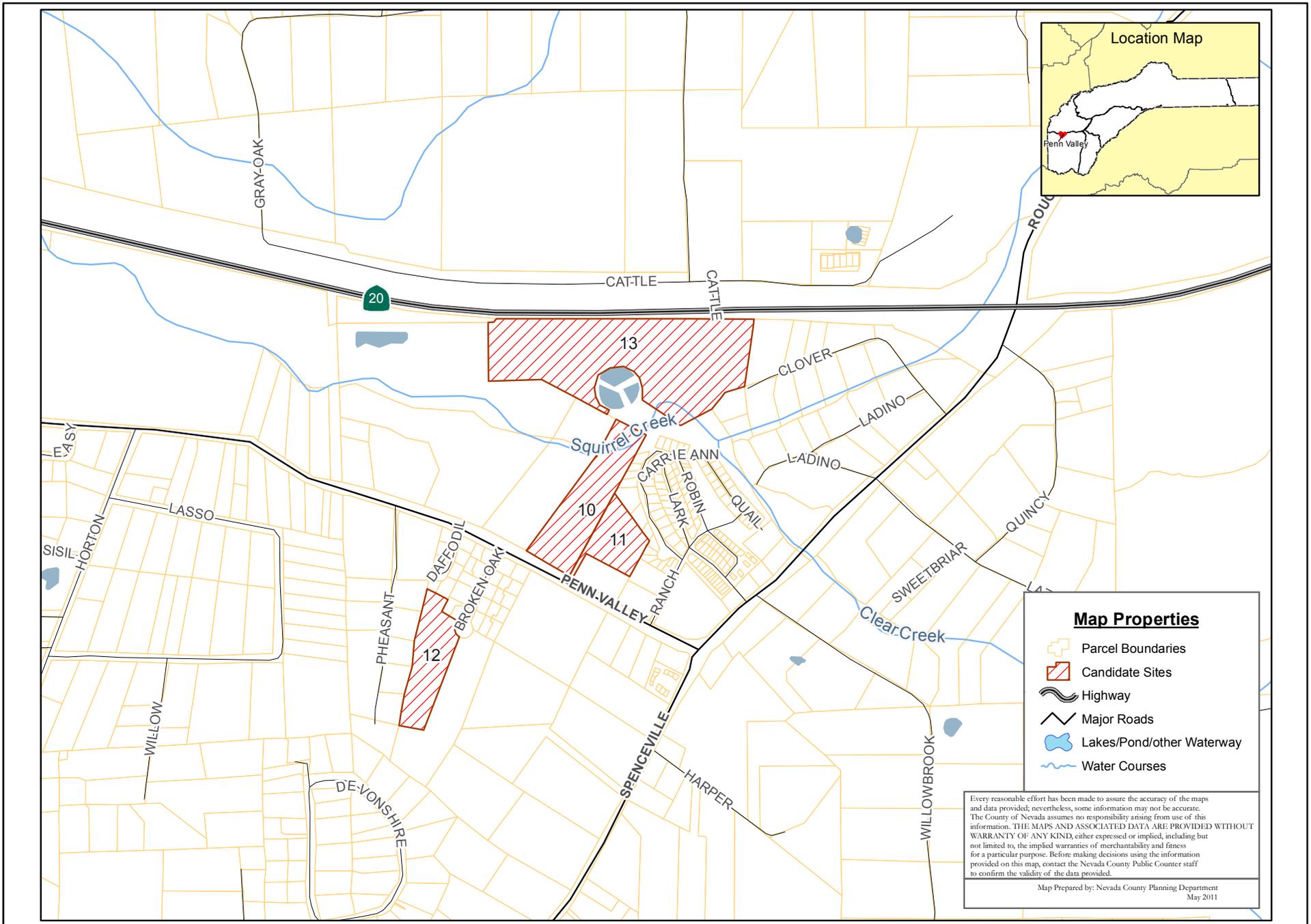


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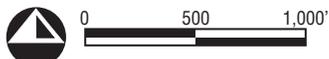
COUNTY OF NEVADA
2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Grass Valley Area Sites

FIGURE 3-2



Source: Nevada County GIS 2012; ESRI 2012.

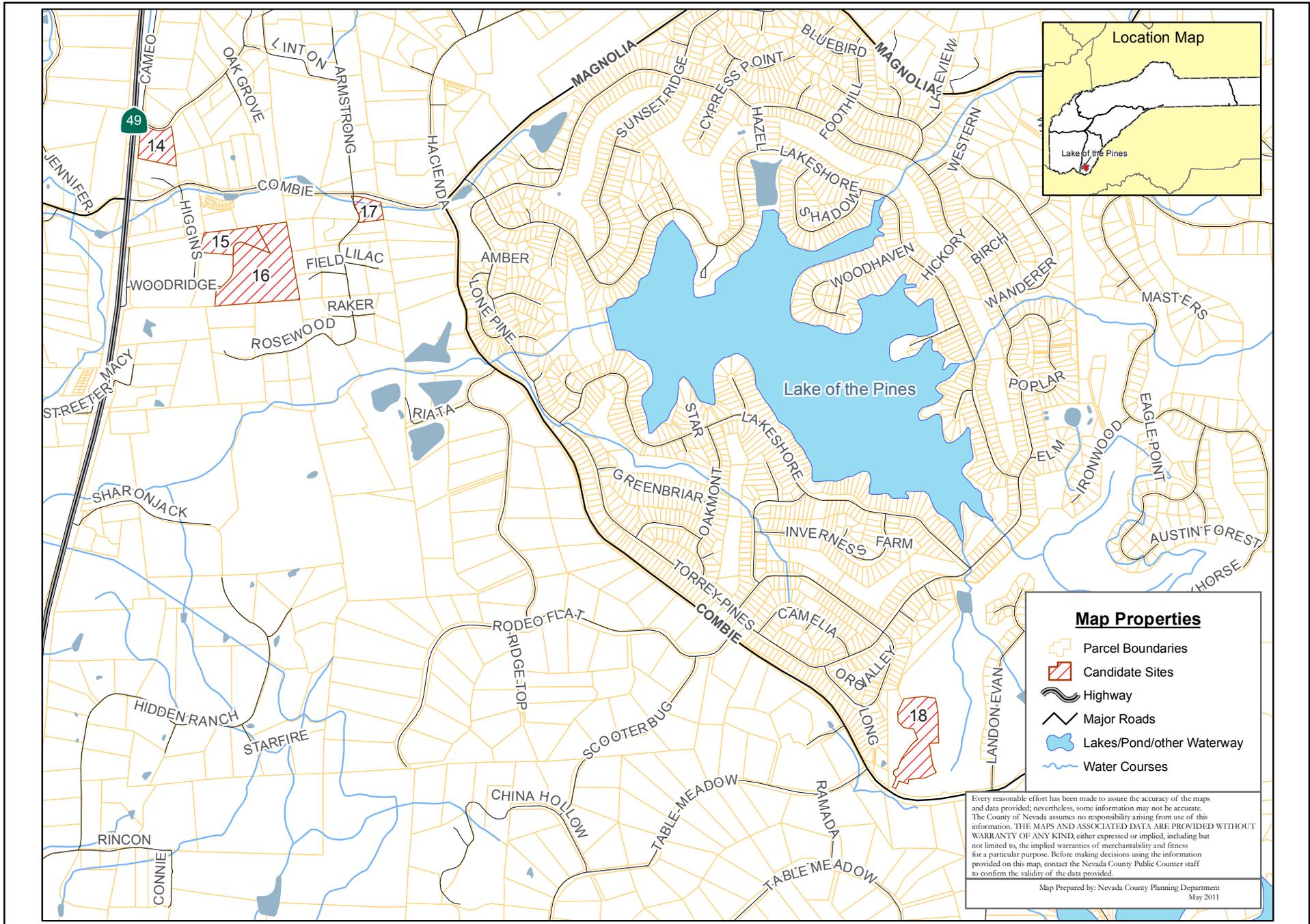


1/18/13 JN 131242-18945

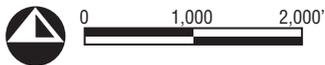
COUNTY OF NEVADA
2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Penn Valley Area Sites

FIGURE 3-3



Source: Nevada County GIS 2012; ESRI 2012.



1/18/13 JN 131242-18945

COUNTY OF NEVADA
2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Lake of the Pines Area Sites

FIGURE 3-4

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Site	1
Size:	1.08 ac
Proposed Density:	16-20 du/ac
Max Yield:	22

Legend

- Rezone Sites
- Parcels
- Contours**
- Index (100')
- Major (20')
- Depressions
- City Limits
- Sphere of Influence



Source: Nevada County GIS 2013; ESRI 2013.

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Site	2
Size:	11.36 ac
Proposed Density:	16-20 du/ac
Max Yield:	227

Legend

- Rezone Sites
- Parcels

Contours

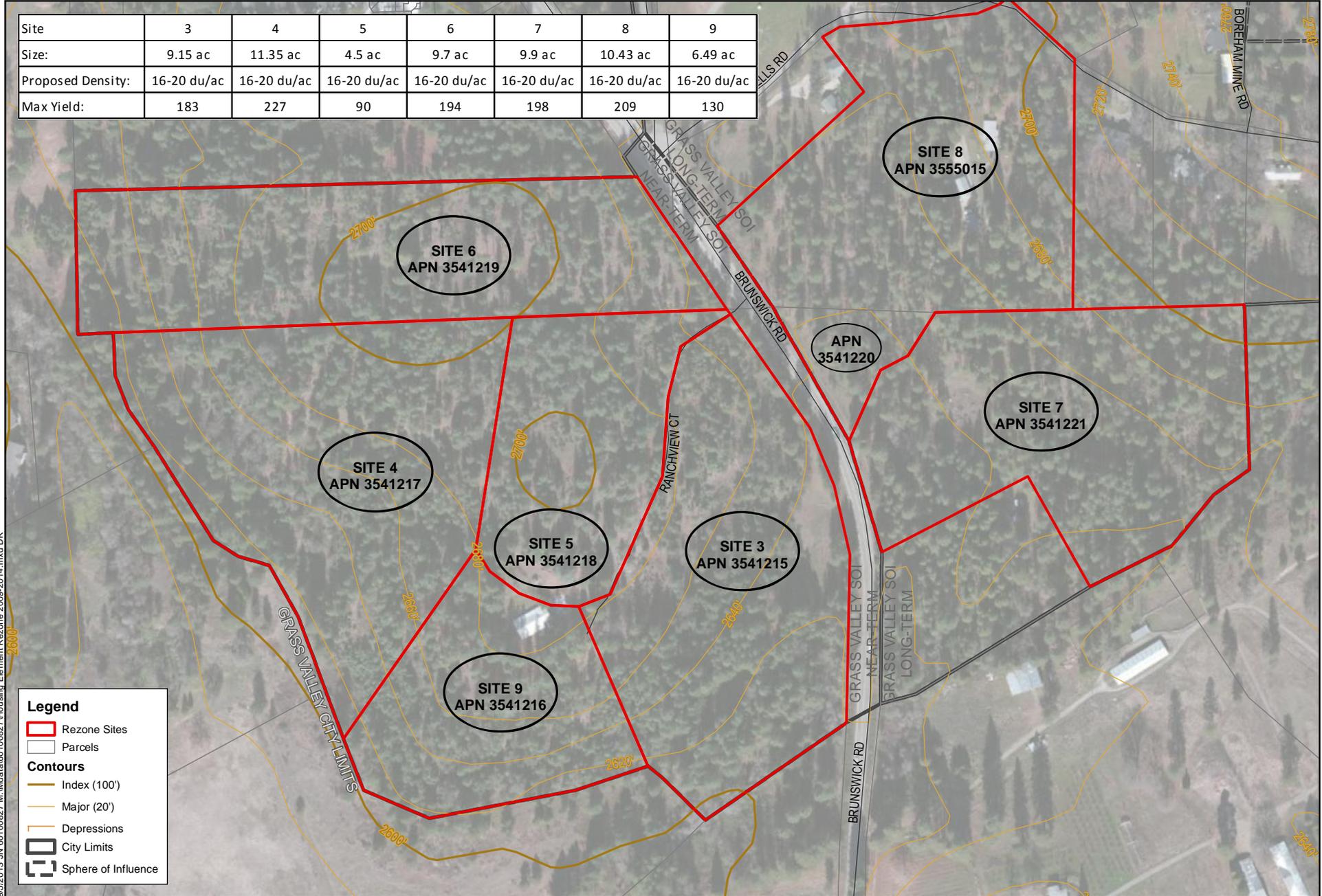
- Index (100')
- Major (20')
- Depressions

- City Limits
- Sphere of Influence



Source: Nevada County GIS 2013; ESRI 2013.

Site	3	4	5	6	7	8	9
Size:	9.15 ac	11.35 ac	4.5 ac	9.7 ac	9.9 ac	10.43 ac	6.49 ac
Proposed Density:	16-20 du/ac						
Max Yield:	183	227	90	194	198	209	130



Legend

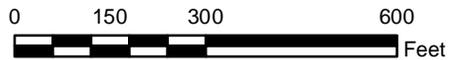
- Rezone Sites
- Parcels

Contours

- Index (100')
- Major (20')
- Depressions

- City Limits
- Sphere of Influence

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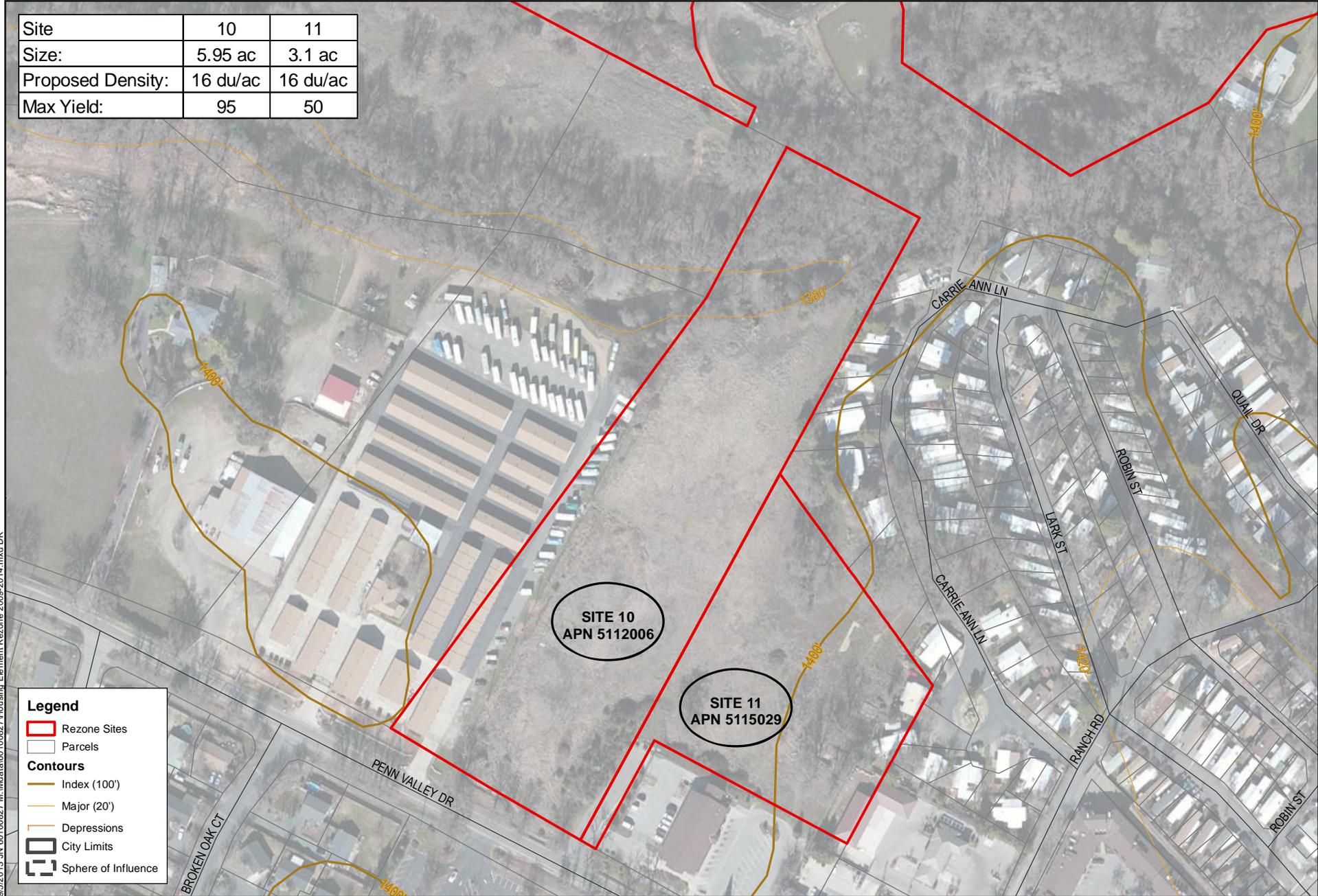


Source: Nevada County GIS 2013; ESRI 2013.

COUNTY OF NEVADA
 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR
SITES 3, 4, 5, 6, 7, 8 & 9

FIGURE 3-7

Site	10	11
Size:	5.95 ac	3.1 ac
Proposed Density:	16 du/ac	16 du/ac
Max Yield:	95	50



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Legend

- Rezone Sites
- Parcels
- Contours**
- Index (100')
- Major (20')
- Depressions
- City Limits
- Sphere of Influence



Source: Nevada County GIS 2013; ESRI 2013.

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Site	12
Size:	4.37 ac
Proposed Density:	16 du/ac
Max Yield:	70

Legend

- Rezone Sites
- Parcels
- Contours**
- Index (100')
- Major (20')
- Depressions
- City Limits
- Sphere of Influence



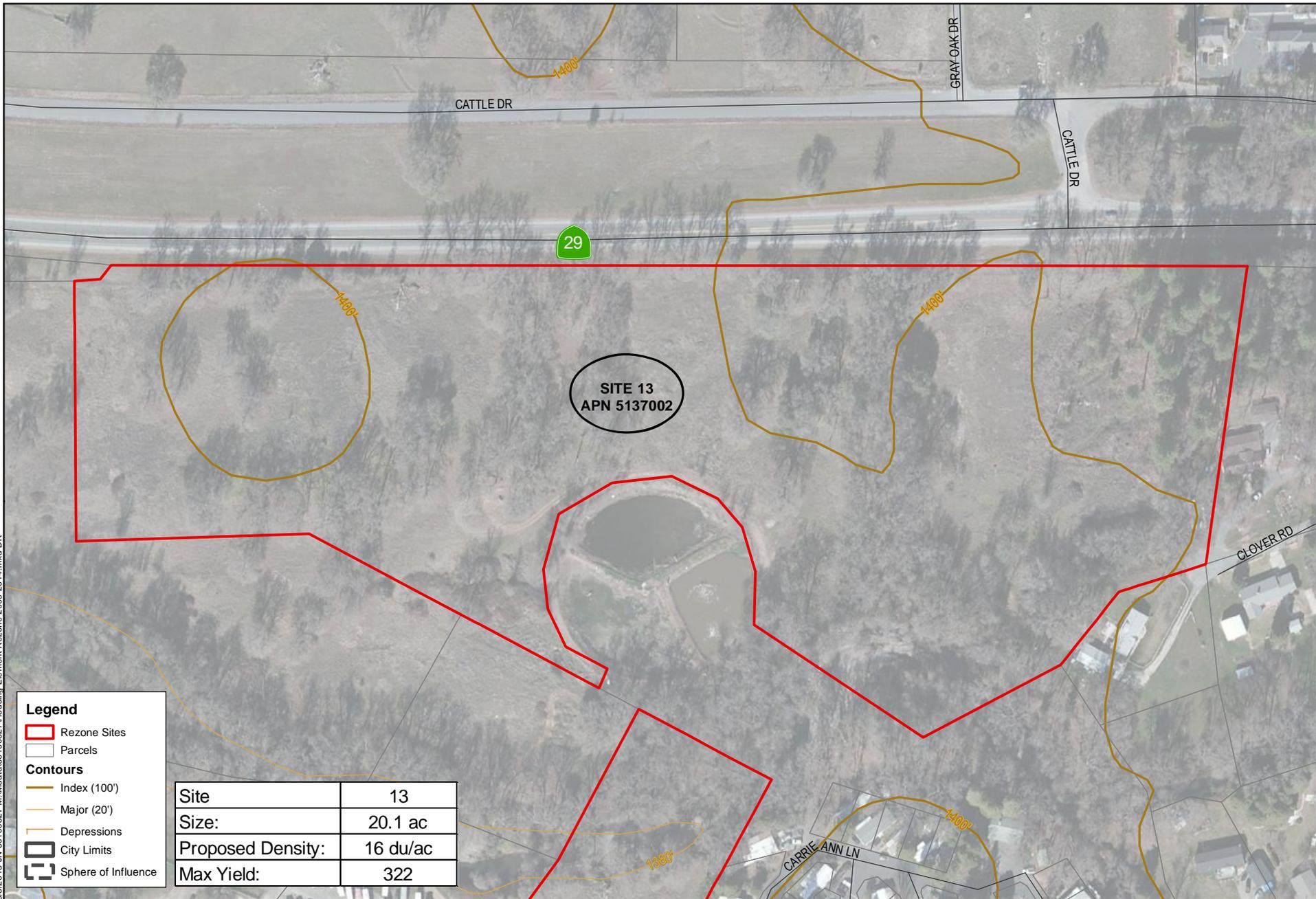
Source: Nevada County GIS 2013; ESRI 2013.

COUNTY OF NEVADA
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SITE 12

FIGURE 3-9

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SITE 13
APN 5137002

- Legend**
- Rezone Sites
 - Parcels
- Contours**
- Index (100')
 - Major (20')
 - Depressions
 - City Limits
 - Sphere of Influence

Site	13
Size:	20.1 ac
Proposed Density:	16 du/ac
Max Yield:	322



Source: Nevada County GIS 2013; ESRI 2013.

COUNTY OF NEVADA
 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

SITE 13

FIGURE 3-10

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Site	14
Size:	5 ac
Proposed Density:	16 du/ac
Max Yield:	80

Legend

- Rezone Sites
- Parcels
- Contours**
- Index (100')
- Major (20')
- Depressions
- City Limits
- Sphere of Influence



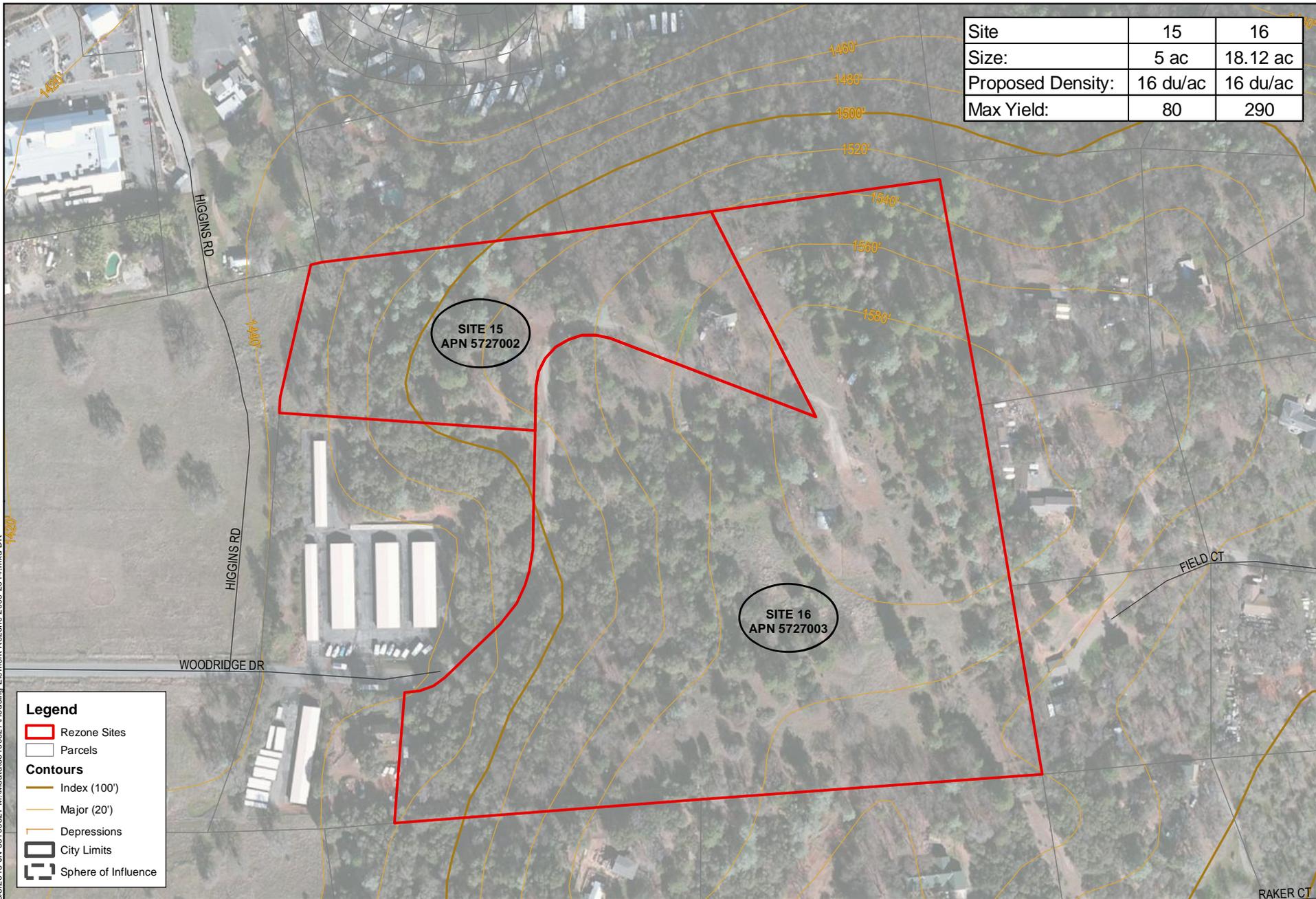
Source: Nevada County GIS 2013; ESRI 2013.

COUNTY OF NEVADA
2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

SITE 14

FIGURE 3-11

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Legend

- Rezone Sites
- Parcels

Contours

- Index (100')
- Major (20')
- Depressions

- City Limits
- Sphere of Influence



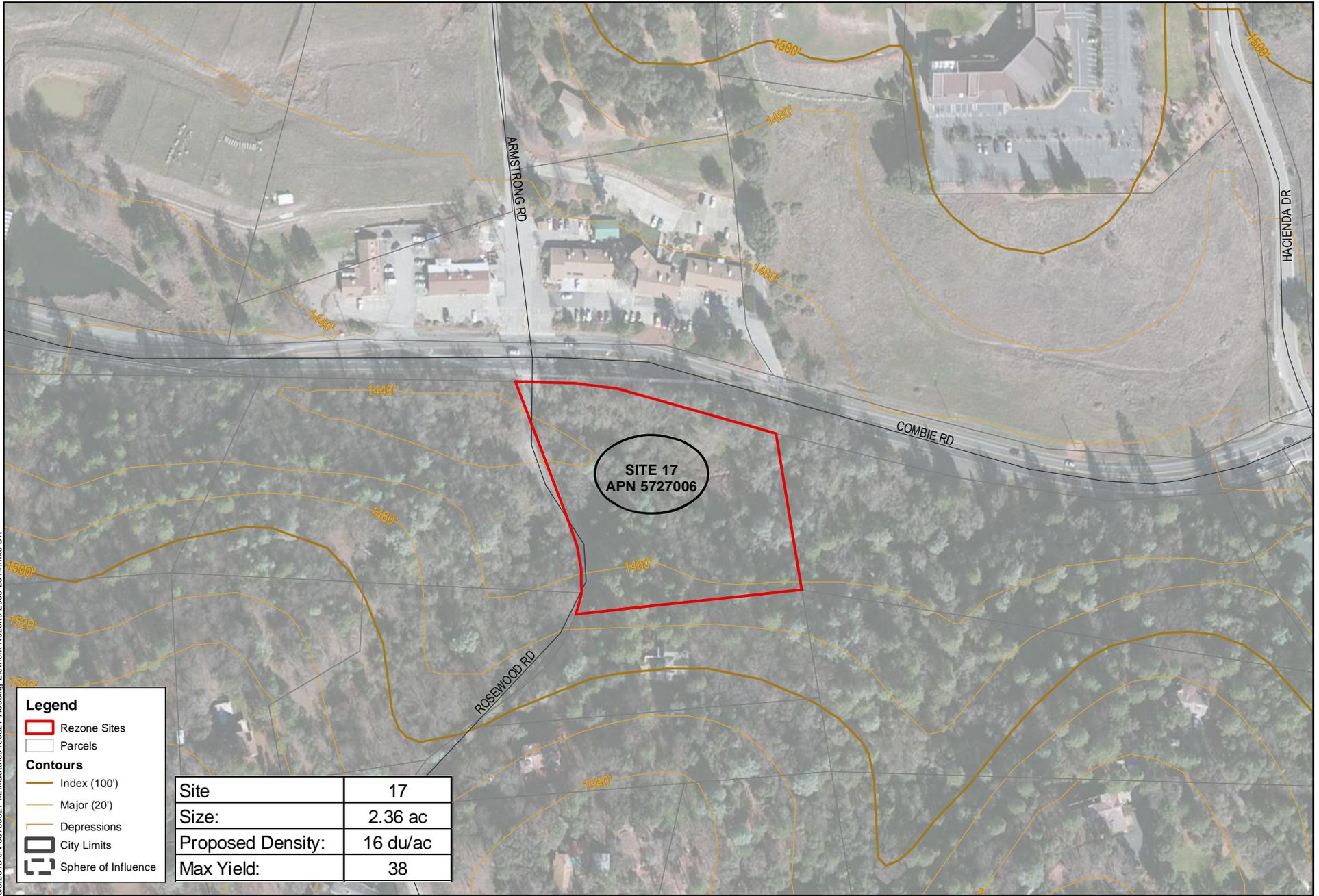
Source: Nevada County GIS 2013; ESRI 2013.



COUNTY OF NEVADA
 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR
SITE 15 & 16

FIGURE 3-12

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SITE 17
APN 5727006

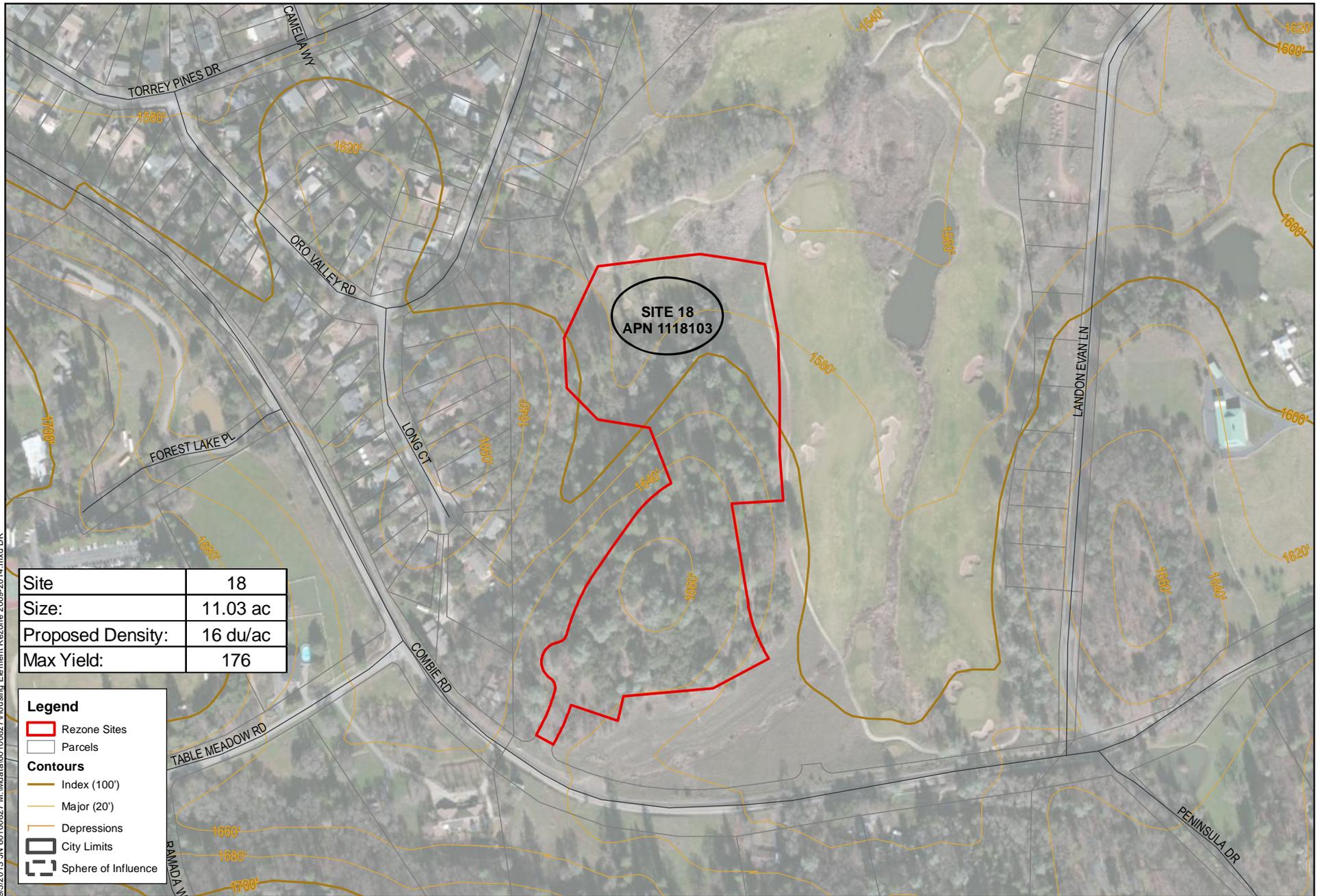
- Legend**
- Rezone Sites
 - Parcels
- Contours**
- Index (100')
 - Major (20')
 - Depressions
- City Limits
 - Sphere of Influence

Site	17
Size:	2.36 ac
Proposed Density:	16 du/ac
Max Yield:	38



Source: Nevada County GIS 2013; ESRI 2013.

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Site	18
Size:	11.03 ac
Proposed Density:	16 du/ac
Max Yield:	176

Legend

- Rezone Sites
- Parcels

Contours

- Index (100')
- Major (20')
- Depressions

- City Limits
- Sphere of Influence



Source: Nevada County GIS 2013; ESRI 2013.

3.3 PROJECT SETTING

3.3.1 PLANNING AREA CHARACTERISTICS AND SURROUNDING LAND USES

The 18 project sites proposed as part of the Housing Element Rezone Program Implementation comprise an area totaling approximately 149 acres, scattered throughout three general areas of unincorporated Nevada County; Grass Valley SOI, Penn Valley, and Lake of the Pines. The 18 sites are all irregularly shaped areas with varying dimensions. The majority of the rezoning areas are undeveloped and surrounded by a variety of existing development including, single-family residential, rural residential, commercial agricultural, recreational, and utility uses. The natural features within the 18 pre-selected sites include a variety of distinct plant communities and several creeks. Specific site characteristics for each of the 18 sites, including notable plant communities and water features, are detailed below.

GRASS VALLEY SPHERE OF INFLUENCE

Sites 1 through 9 are located within the Grass Valley SOI, dispersed along the southern and western boundaries of the City of Grass Valley. More details regarding the SOI can be found in Section 4.2 (Land Use). The area identified as the Grass Valley SOI is an area within the unincorporated area of Nevada County but adjacent to the city limits of Grass Valley. The land uses transition from the typically higher residential densities and commercial and industrial intensities uses to more rural residential and commercial areas in the unincorporated area. The areas within the SOI have been identified in the City of Grass Valley General Plan as areas that have potential to be annexed into the City at some future time. As such, these areas within the SOI are typically areas that have transitional land uses.

In the analysis discussion of this report, the City is listed as the implementing/monitoring agency for the mitigation measures that apply to Sites 1-9. In the event that these sites do not annex into the City and do not require City services, the implementing/monitoring agency shall automatically default to the County of Nevada. In the event that the mitigation measure requires improvements to a City facility, such as an intersection already within the City limits, the City of Grass Valley shall remain as the implementing and monitoring agency regardless of whether or not the site is eventually annexed into the City.

Site 1

Site 1, rectangular in shape and approximately 1.08 acres in size, is located in the southern portion of the Grass Valley SOI, on the southeast side of McCourtney Road between Cliffs Place and Genes Road. The site is generally undeveloped and gently slopes to the northwest, toward McCourtney Road, with no notable landforms, drainage features, or vegetation. This site has previously been cleared and is periodically used as a fee parking lot for events at the Nevada County Fairgrounds, which are located across McCourtney Road, northwest of the site. Site 1 is located in an area with other existing development, bounded by commercial buildings to the west and east and single family residences to the southeast. Beyond the single family residences is the northwest boundary of the North Star property, a site of historical hard rock gold mining and known environmental hazards.

Site 2

Site 2, approximately 11.36 acres, is located on La Barr Meadows Road south of the intersection with McKnight Way. Site 2 is undeveloped; however, past uses of Site 2 include hard rock gold mining. There is a single dirt access road entering the south end of the site from La Barr Meadows Road which passes eastwardly through the property. Site 2 contains vegetation consisting of areas of dense blackberry bushes, grasses, shrubs, and trees including gray pine and a few madrone. The site moderately slopes toward the southwest, with an ephemeral drainage swale located in the southern portion of the site.

Site 2 is bound by commercial and residential land uses on the northwest and south, La Barr Meadows Road and State Route 49 on the southwest, the Empire Mine State Historic Park on the north, and a portion of the approximately 45-acre La Barr Meadows property on the east, of which Site 2 comprises the western portion. The western property boundary is coterminous with the Grass Valley City limit.

Sites 3 through 9

Sites 3 through 9 are located on Brunswick Road, north of Idaho Maryland Road and south of Bubbling Wells Road. Sites 3, 4, 5, 6, and 9 are on the west side of Brunswick Road and are accessed by Triple Crown Drive. The Nevada County Airport is located approximately one-half mile to the southeast. Due to the proximity to the airport, all seven of these sites are also located within the Nevada County Airport Influence Area. Sites 3, 4, 5, 6, and 9 are undeveloped contiguous parcels with an irregular shape. Sites 7 and 8 lies across Brunswick Road to the east and also has an irregular shape. These parcels are gently to moderately sloped.

Sites 3 through 6, and 9 are generally located on a forested hilltop location, forested with madrone, incense cedar, ponderosa pines, and associated chaparral typical of the area.

Site 3 contains a minor apparent rock outcrop in the eastern portion of the parcel and an abandoned small wood structure in the eastern, downslope portion of the site, near an abandoned irrigation ditch alignment. An unnamed tributary to Wolf Creek traverses the southernmost area of this property.

Sites 3, 4, 5 and 9 are all under the same ownership. Sites 5 and 6 have direct access from Brunswick Road. The southern half of irregularly shaped Site 4 is dominated by a broad swale, sloping downward to the southwest; with the only evidence of significant surface water flow in the swale located in the lowermost portions of the site, near the southwestern property boundary.

Site 5 is an undeveloped property that is completely surrounded by other properties within the project area (Sites 3, 4, 6, and 9). The majority of this site and the surrounding sites are covered with forested vegetation. A knoll in the center of Site 5 is the top of the slope as it comes up from Brunswick Road and transitions down toward the developments off of Sutton Way in the City of Grass Valley.

Sites 4 and 6 are bound by undeveloped land to the southwest, west, and north. A portion of the western boundary of Site 4 and the western and northern borders of Site 6 are coterminous with the boundary of the Grass Valley city limits. Undeveloped land lies southeast of Site 3. Agricultural development is apparent south of Site 7 and single family residences are located to the north.

Site 7 is located to the east of Sites 3 through 6 and 9, on the east side of the Brunswick Road alignment. This is a forested site, with a rock outcrop in the western portion of the site. Site

7 is gently to moderately sloping to the southwest toward Brunswick Road. A previously graded, gently sloping bench crossing the site, descending from northwest to southeast, is presumed to be attributable to the historical Nevada County Narrow Gauge Railroad alignment. The portion of the site contains an unnamed tributary to Wolf Creek.

Site 8 is located adjacent to Site 7 to the north with access from Brunswick Road. Like Site 7, this site is a forested site that gently slopes from the northeast to the southwest. There are two existing structures on site, one residence and one outbuilding. A portion of the western property boundary is coterminous with the Grass Valley city limit line.

Site 9 is adjacent to Sites 3, 4, and 5 and contains one existing residence that takes access off of Brunswick Road from Triple Crown Drive through Site 5. Similar to Sites 3, 4, and 5 the majority of the site is covered with mature forested vegetation and slopes from north to south. Property to the south of Site 9 is generally flat and has been cleared for agricultural uses. The southern boundary is along the proposed alignment for the future extension of Dorsey Drive from Sutton Way east to Brunswick Road planned by the City of Grass Valley.

PENN VALLEY

Penn Valley, an unincorporated community, is located in the western portion of Nevada County, six miles west of the City of Grass Valley. Penn Valley has a “small town” feel with a population of approximately 1,621¹, but approximately 12,000 people consider Penn Valley home². In recent years, Penn Valley has developed a new post office, fire station, performing arts pavilion, a small affordable sub-division, and a 42-unit affordable apartment complex.

Sites 10 and 11

Sites 10 and 11 are undeveloped contiguous parcels located in the Penn Valley Area south of State Route 20, on the north side of Penn Valley Drive, and east of the intersection with Broken Oak Court. Site 11 is approximately 3.1 acres, located west of and adjacent to a commercial development. The site is relatively flat, gently sloping to the northwest towards Site 9, and is vegetated primarily with grasses and a few oak trees. Site 10 is undeveloped and very gently slopes to the northeast toward Squirrel Creek and contains drainage courses meandering throughout the property. Site vegetation consisted of primarily grasses, localized blackberry bushes, and riparian zone plants near Squirrel Creek.

The northern section of Site 10 is transected by Squirrel Creek, and is bound by a riparian zone, the Creekside Village mobile home park wastewater percolation ponds, and Site 13. Mixed use commercial and residential properties surround the sites on the east, west, and south.

Site 12

Site 12, approximately 4.37 acres, is southwest of Sites 10 and 11 across Penn Valley Road on Broken Oak Court. This site is undeveloped and flat lying. Broken Oak Court by which the site is accessed is a paved road. Vegetation on this site consisted of grasses and a few large oak trees. A seasonal drainage swale is present on the north side of the site and appears to follow the property boundary from the east, then passes through the northwest portion of the site. This site is surrounded on all sides by single and multifamily residential development.

¹ U.S. Census Bureau, 2010 U.S. Census.

² Penn Valley Area Chamber of Commerce, http://www.pennvalleycoc.org/html/penn_valley_today.html, accessed October 30, 2012

Site 13

Site 13, approximately 20.1 acres, is bordered by State Route 20 to the north, rural residential development to the east, Squirrel Creek to the south, and presently undeveloped land to the west. Site 13 is undeveloped, consists of gently rolling terrain with vegetation including grasses, shrubs, oak and pine trees. Two indistinct seasonal drainage swales transect the site from the State Route 20 boundary and flow is toward Squirrel Creek to the south. An existing, circular percolation pond is located adjacent to Site 13, near Squirrel Creek. The percolation pond functions as the primary component of the wastewater treatment and disposal system for the Creekside Village mobile home park, which is located south of Site 12, across Squirrel Creek. Access to Site 13 is currently provided by an easement through the Creekside Village mobile home park and a concrete stream crossing over Squirrel Creek.

LAKE OF THE PINES

Sites 14 through 18 are located out the outlying areas of the Lake of the Pines, an unincorporated and gated community, located approximately 20 miles south of Grass Valley and 12 miles north of Auburn, within the southern portion of Nevada County. Lake of the Pines development within the outlying areas consists of rural residential and commercial uses. Sites 13 through 16 are located to the northwest, while Site 18 is located to the south west of the Lake of the Pines Community.

Site 14

Site 14 is located northeast of the intersection of State Route 49 and Combie Road, on the south side of Cameo Drive. Site 14 is located in an area of other successful development, bound by State Route 49 on the west, rural residential development to the north and east, and the Higgins Fire Station to the south. Site 14 is an undeveloped parcel on moderately sloped terrain, containing two rock outcrops and vegetation consisting of grasses, shrubs, oak and pine trees.

Sites 15 and 16

Sites 15 and 16 are located southeast of the intersection of State Route 49 and Combie Road and Site 14. Access to these sites is from Woodridge Drive off of State Route 49. Site 15 and 16 are contiguous parcels, occupy moderately sloping terrain, and are vegetated with grasses, shrubs, oak and pine trees. Vegetation is dense on the westerly facing slopes. Site 15 is presently developed with a single family residence. Site 16 is largely undeveloped, except for a wastewater disposal field and associated groundwater monitoring well network and pump building. The wastewater disposal field services the commercial development on the corner of State Route 49 and Combie Road to the northwest. Power transmission lines transect the eastern portion of the property.

Site 17

Site 17 is densely vegetated and undeveloped on moderately sloping terrain with very dense vegetation. Ragsdale Creek runs along the north boundary of Site 17. Site 17 is bound by single family residential property on the south, Rosewood Road and undeveloped land to the east, undeveloped land to the west, and commercial development across Combie Road to the north.

Site 18

Site 18 is located southeast of Sites 15, 16, and 17 on the north side of Combie Road. The northern portion of Site 18 is adjacent to Hole 6 green of the adjacent Darkhorse Golf Course. Site 18 is bound on the north and east by the Darkhorse Golf Course, on the west and south by single family residential development and open space. Site 18 is generally an undeveloped parcel on moderately to steeply sloped terrain with a rock outcrop in the southern portion of the site centered on the topographic high and extending southwest along the ridge. Vegetation consists of grasses, shrubs, oak and pine trees. An ephemeral drainage transects the northwest portion of the property. As part of the Darkhorse development, the Site 18 property was designated for high density and affordable housing.

3.4 PROJECT CHARACTERISTICS

3.4.1 GENERAL PLAN LAND USE DESIGNATION AMENDMENT

In order to meet state housing requirements identified in the County's Housing Element, the County is proposing to rezone 18 sites to meet the County's need of a minimum of 1,270 low and very low income housing units. In addition to a Zoning Map amendment, all of the proposed project sites will require a General Plan Map Amendment, with the exception of site 6, to accommodate a proposed density of a maximum 20 du/acre for sites 1-9 located within the Grass Valley SOI area of Nevada County, and a maximum 16 du/ac for sites 10-18. The range of 16-20 du/ac reflects the County's designation that allows up to 20 du/ac in the R3 Zoning when the site is within a City SOI. The 16 du/ac relates to the state mandated density for rezoned sites and is allowed by the County's RH (Regional Housing Need) Combining Districts. All proposed sites, other than site 6, will require a General Plan Map Amendment to change the designation to Urban High Density Residential. Table 3-2, *General Plan Land Use Designations*, shows the existing and proposed General Plan designation for each site and the proposed allowable density for each site.

3.4.2 ZONING AMENDMENTS

To meet state housing requirements identified in the County's Housing Element, high density residential zoning (R3) for an additional 1,270 low and very low income housing units are required to meet the County's unmet housing needs. The project proposes to implement rezoning through the Zoning Map Amendment process to rezone sufficient acreage to higher density residential, or the equivalent of higher density residential, to meet the minimum low and very low income requirements. The specific rezoning process is proposed through the implementation of Housing Element Programs HD-8.1.3 and HD-8.1.4, including adding the "RH" Zoning Combining District to those sites included in Program HD-8.1.5.

The Housing Element Programs are described below:

Program HD-8.1.3: To accommodate the unmet housing need of 571 low and very-low income units identified in the 2003-2008 Nevada County Housing Element, the County would rezone at least 29 acres of property suitable and available for development.

**Table 3-2
 General Plan (GP) Land Use Designations**

Site	Existing GP Designation	Proposed GP Designation	Proposed Maximum Density
Grass Valley SOI			
1	Office Park	Urban High Density	20 du/acre
2	Business Park	Urban High Density	20 du/acre
3	Urban Medium Density	Urban High Density	20 du/acre
4	Urban Medium Density	Urban High Density	20 du/acre
5	Urban Medium Density	Urban High Density	20 du/acre
6	Urban High Density	Urban High Density	20 du/acre
7	Urban Medium Density	Urban High Density	20 du/acre
8	Urban Medium Density	Urban High Density	20 du/acre
9	Urban Medium Density	Urban High Density	20 du/acre
Penn Valley Area			
10	Community Commercial	Urban High Density	16 du/acre
11	Community Commercial	Urban High Density	16 du/acre
12	Urban Medium Density Residential	Urban High Density	16 du/acre
13	Community Commercial	Urban High Density	16 du/acre
Lake of the Pines Area			
14	Public	Urban High Density	16 du/acre
15	Industrial	Urban High Density	16 du/acre
16	Industrial	Urban High Density	16 du/acre
17	Residential	Urban High Density	16 du/acre
18	Planned Residential Community	Urban High Density	16 du/acre

Program HD-8.1.4: To accommodate the unmet housing need of 699 low and very-low income units identified in the 2009-2014 Nevada County Housing Element, the County would rezone at least 35 acres suitable and available for development.

The rezoning of property under Programs HD-8.1.3 and HD-8.1.4 will occur through one of the following scenarios:

1. Rezones within the cities' sphere of influence to a maximum density of 20 units per acre (R3-20) and a minimum density of 16 units per acre; or
2. Rezone a sufficient amount of land outside the cities' sphere of influence to a minimum density of 16 units per acre; or
3. A combination of rezoned land within and outside of the cities' sphere of influences at the identified densities may also be used to satisfy the unmet need of 571 and 699 units, respectively.

A minimum of 50 percent of the 1,270 units shall be accommodated on sites zoned exclusively for residential uses. Owner occupied and rental multi-family residential uses on these sites shall be allowed by right (without a conditional use permit, planned unit development plan,

or other discretionary action) as required by Government Code Sections 65583.2(h) and (i)³. The rezones sites shall provide for a minimum of 16-units per site and required a minimum density of 16-units per acre.

Program HD-8.1.5: Required the County to amend the Zoning Regulations to create a definition and development standards for a Regional Housing Need (RH) Overlay district that is to be attached to the rezoned sites in order to accommodate the new construction objectives under Programs HD-8.1.3 and HD-8.1.4. The overlay district was developed by County staff and adopted by the County Board of Supervisors on September 27, 2011.

Table 3-2, *Proposed Zoning*, shows the proposed zoning designation for each site and the proposed allowable density for each site.

**Table 3-3
Proposed Zoning**

Site	Existing Zoning Designation	Existing Density	Proposed Zoning Designation	Proposed Density
Grass Valley SOI				
1	OP	4 du/acre	R3-RH or OP-RH	16-20 du/acre
2	BP	4 du/acre	BP-RH or R3-RH	16-20 du/acre
3	R2-PD	6 du/acre	R2-PD-RH or R3-PD-RH	16-20 du/acre
4	R2-PD	6 du/acre	R2-PD-RH or R3-PD-RH	16-20 du/acre
5	R2-PD	6 du/acre	R2-PD-RH or R3-PD-RH	16-20 du/acre
6	R2-PD	6 du/acre	R2-PD-RH or R3-PD-RH	16-20 du/acre
7	RA-1.5	1.5 du/acre	RA-RH or R3-RH	16-20 du/acre
8	RA-1.5	1.5 du/acre	RA-RH or R3-RH	16-20 du/acre
9	R2-PD	6 du/acre	R2-PD-RH or R3-PD-RH	16-20 du/acre
Penn Valley Area				
10	C2-SP	4 du/acre	C2-SP-RH or R3-SP-RH	16 du/acre
11	C2-SP	4 du/acre	C2-SP-RH or R3-SP-RH	16 du/acre
12	R2-SP	6 du/acre	R3-RH or R2-SP-RH	16 du/acre
13	IDR-SP	1 du/acre	R3-RH	16 du/acre
Lake of the Pines Area				
14	OP-SC-SP	4 du/acre	R3-RH or OP-SC-SP-RH	16 du/acre
15	IDR-SC-SP	15 dwelling units total for both sites	R3-RH or PD-RH	16 du/acre
16	IDR-SC-SP		R3-RH or PD-RH	16 du/acre
17	R2-SC-SP	6 du/acre	R3-RH or R2-SC-SP-RH	16 du/acre
18	R1-PD-SP	4 du/acre	R3-RH -SP	16 du/acre

SITE SELECTION

To demonstrate that the required housing needs could be met through the implementation of the Housing Element Programs, the County selected 18 properties as potential sites for development for high density housing units. As described above, under Project Background, a site analysis was conducted for each of the properties to determine if enough suitable land for the development of 1,270 affordable housing units could be achieved from the project sites.

³ California Government Code, <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=65001-66000&file=65580-65589.8>

SITE DEVELOPMENT

The proposed project does not include any site development or construction plans on the 18 sites evaluated in this EIR. Future development would occur on these sites as market conditions allow at the discretion of the individual property owners.

The theoretical or maximum yield of each site is used in the evaluation of this EIR as a conservative approach to evaluating the potential environmental impacts associated with future development on the properties. This is a conservative approach because assuming a maximum yield assumes the highest number possible of units would be built, and does not take into consideration any development constraints such as sensitive biological resources, cultural resources, ground slope, wetlands, or regulatory constraints such as existing easements, driveways, frontage improvements, or roadway or intersection improvements. The presence of any one of these constraints could limit the amount of development that is permitted on a given site. The maximum or theoretical yield is simply a calculation that multiplies the total area of a property by the allowable density. For example, a 10-acre site with a maximum density of 16 units per acre would have a maximum or theoretical yield of 160 units (10 acres x 16 dwelling units per acre = 160 units). It is anticipated that very few of the sites will be able to achieve their maximum yield. However, the maximum yield is assumed for purposes of this EIR to evaluate the greatest number of units possible to provide future development the opportunity to utilize the analysis in this environmental document for future development applications. A summary of the unit count is provided in Table 3-4, *Theoretical Yield of Proposed Sites*.

Table 3-4
Theoretical Yield of Proposed Sites

Site	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	
Parcel Area (Acres)¹	1.08	11.36	9.15	11.35	4.5	9.7	9.9	10.43	6.49	5.95	3.1	4.37	20.1	5.0	5.0	18.12	2.36	11.03	148.99	
Existing Building Density (du/acre)	4	4	6	6	6	6	1.5	1.5	6	4	4	6	1	4	15 units total		6	4	-	
Existing Max Yield (Units)	4	45	54	68	27	58	6	6	38	23	12	26	20	20	15		14	44	480	
Proposed Building Density (du/acre)	20	20	20	20	20	20	20	20	20	16	16	16	16	16	16	16	16	16	16	-
Proposed Max Yield (Units)	22	227	183	227	90	194	198	208	129	95	49	69	322	80	80	289	37	176	2,675	

¹ Based on existing County of Nevada Assessor's Parcel data

ESTABLISHMENT OF SITE DEVELOPMENT CRITERIA FOR REZONED SITES

As outlined in the "RH" Zoning Combining District Ordinance (Section L-II 2.7.11.C.3 of the Nevada County Land Use and Development Code), the project will result in the development of a Regional Housing Need Implementation Plan. This Plan will outline site-specific development standards and any CEQA mitigation measures adopted for each site that must be adhered to in order for the site to develop consistent with the purpose of the rezone and to ensure that the development of the site does not result in a significant environmental impact.

However, the RH Combining District Ordinance requires that future development on these sites be allowed without additional discretionary permits required from the County. In other words, future development consistent with the RH Combining District is allowed “by right” under the design parameters established by the ordinance. With that requirement in mind, the County developed proposed building envelopes for each site, where future development could occur within these areas and still be consistent with County (and City of Grass Valley requirements for Sites 1-9 within the Grass Valley SOI) requirements for avoidance of environmentally sensitive areas (ESA), frontage improvements, and driveway improvements necessary to develop the site. Resources with ESA designated areas are considered to be avoided because the intent of the ESA is to preclude development within those areas. In some cases, development may encroach within those areas, but only with the approval of a Management Plan that provides specific measures to minimize and mitigate potential impacts. The proposed building envelope for each site is shown in Figure 3-15 through Figure 3-24, *Environmentally Sensitive Areas and Building Footprints*.

It is the intent of this document to satisfy the future CEQA requirements for development on Sites 1 through 18 that is consistent with these building envelopes.

The following is a description of the environmental constraints that influenced the building envelope design:

Site 1

Site 1 has no environmental constraints and development is assumed over the entire site. A 30-foot right-of-way (ROW) dedication was assumed along McCourtney Road for future road improvements.

Site 2

The development footprint for Site 2 covers most of the parcel. Some ESAs are located on the site for the protection of biological and cultural resources.

Site 3

The development footprint for Site 3 covers most of the parcel. An ESA for cultural and biological resources including wetlands with a 100-foot buffer is located on the southernmost portion of the site. A 30-foot ROW dedication along Brunswick Road was assumed for future road improvements.

Site 4

Site 4 has no environmental constraints and development is assumed over the entire site.

Site 5

Site 5 has no environmental constraints and development is assumed over the entire site.

Site 6

Site 6 has no environmental constraints and development is assumed over the entire site.

Site 7

Site 7 has a development footprint on approximately 43% of the site. The project site has two drainages onsite that have been placed within ESA with 100 foot buffers. Additionally, a 30-

foot ROW dedication along Brunswick Road was assumed for future road improvements. Because one of the drainages runs parallel to Brunswick Road, a crossing is necessary to obtain access to the site. A 50-foot driveway access from Brunswick Road is assumed for the site. The driveway width assumes 24 feet of improved roadway, a 3-foot shoulder on either side, and 10 feet of fire clearing area on either side.

Site 8

Site 8 has a development footprint that consists of approximately 30 percent of the site. Like Site 7, there is a drainage that runs parallel to Brunswick Road along the western portion of the site. There are also cultural resources onsite that constrain the area of development. Similar to Site 7, a driveway crossing through the ESA is necessary to access the developable area of the site. A 50-foot driveway access from Brunswick Road is assumed for the site. The driveway width assumes 24 feet of improved roadway, a 3-foot shoulder on either side, and 10 feet of fire clearing area on either side. The proposed driveway location is planned to align with the future driveway for Site 5 across the street.

Site 9

Site 9 has few development constraints with the exception of an ESA for cultural and biological resources including wetlands with a 100-foot buffer located on the southernmost portion of the site.

Site 10

Most of Site 10 has been designated for development. An ESA was placed on the northern end of the site for protection of wetland and riparian habitat associated with Squirrel Creek. The ESA includes a 100-foot buffer. The development area includes a portion of the site that is mapped wetland. Although this area would be evaluated for wetland impacts, most of the wetland area is created by a stormwater outfall from Penn Valley Road that discharges water at the site. Since development of this site would require the surface water runoff to be conveyed to a proper drainage area, the wetland area would likely cease to exist. A 30-foot ROW dedication was assumed for the project frontage along Penn Valley Road.

Site 11

The entire property was assumed to be developed. Similar to Site 10, an area identified as wetland has been assumed to be developed, because once the storm drain ceases to discharge water onto the project site, the wetlands in these areas will no longer exist.

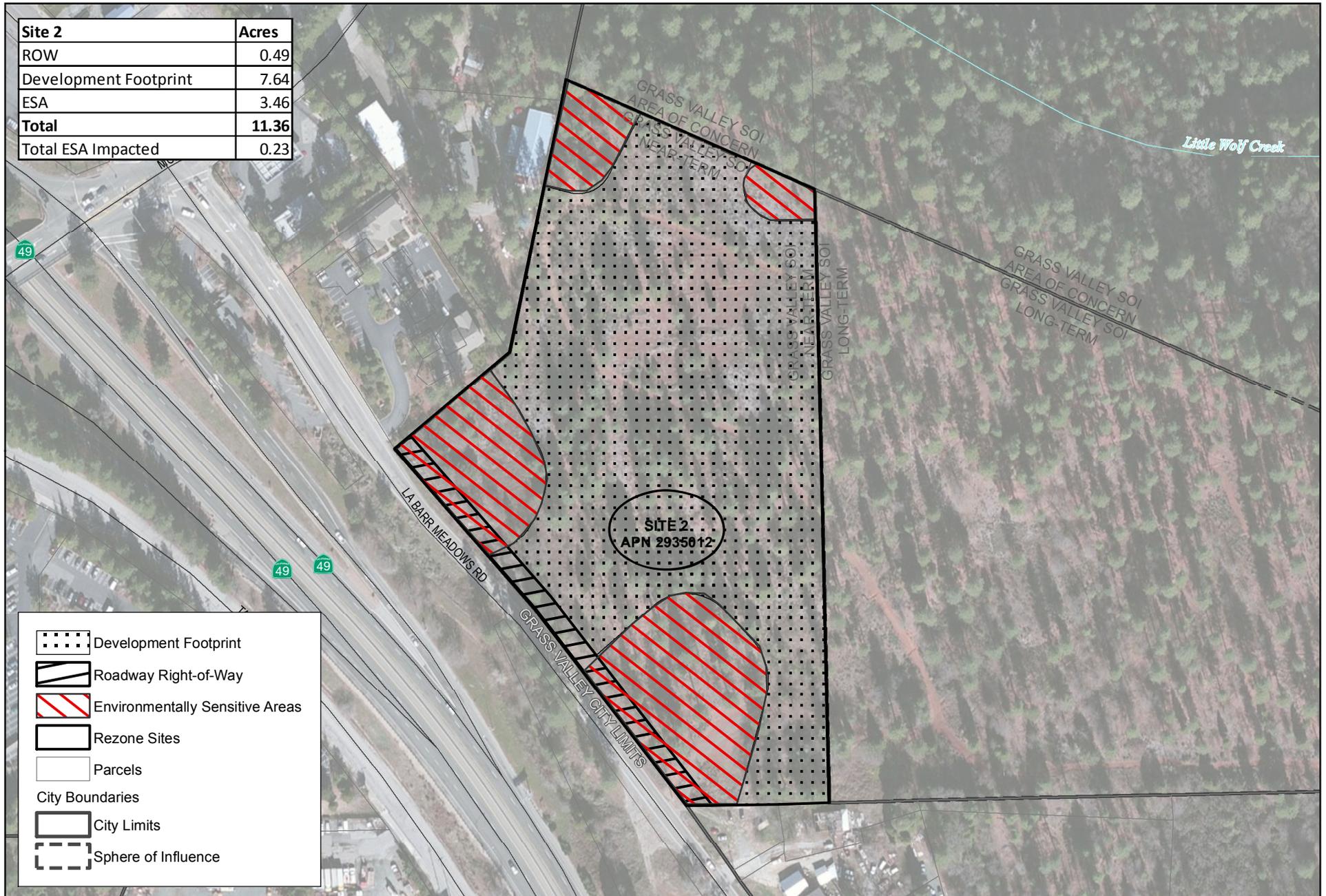
Site 12

Most of Site 12 was assumed to be developed. Similar to Sites 10 and 11, a portion of the site has been mapped as a wetland as a result of stormwater flowing onto the site. The stormwater would be addressed as part of the project improvements and water would no longer collect within the development area; however, a portion of the wetland area was preserved within an ESA where water from other offsite sources could collect.

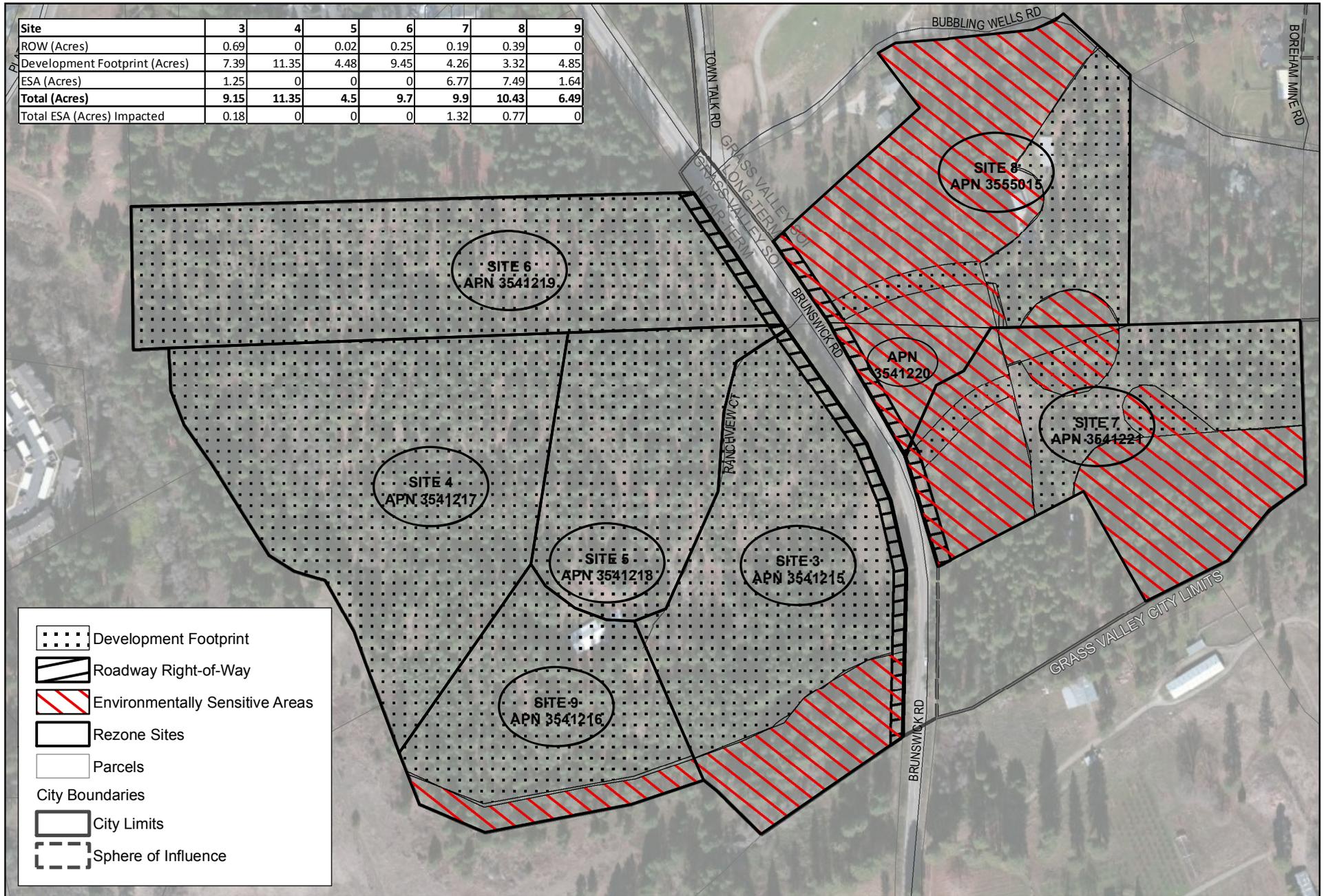
Site 1	Acres
ROW	0.17
Development Footprint	0.98
ESA	0
Total	1.08
Total ESA Impacted	0



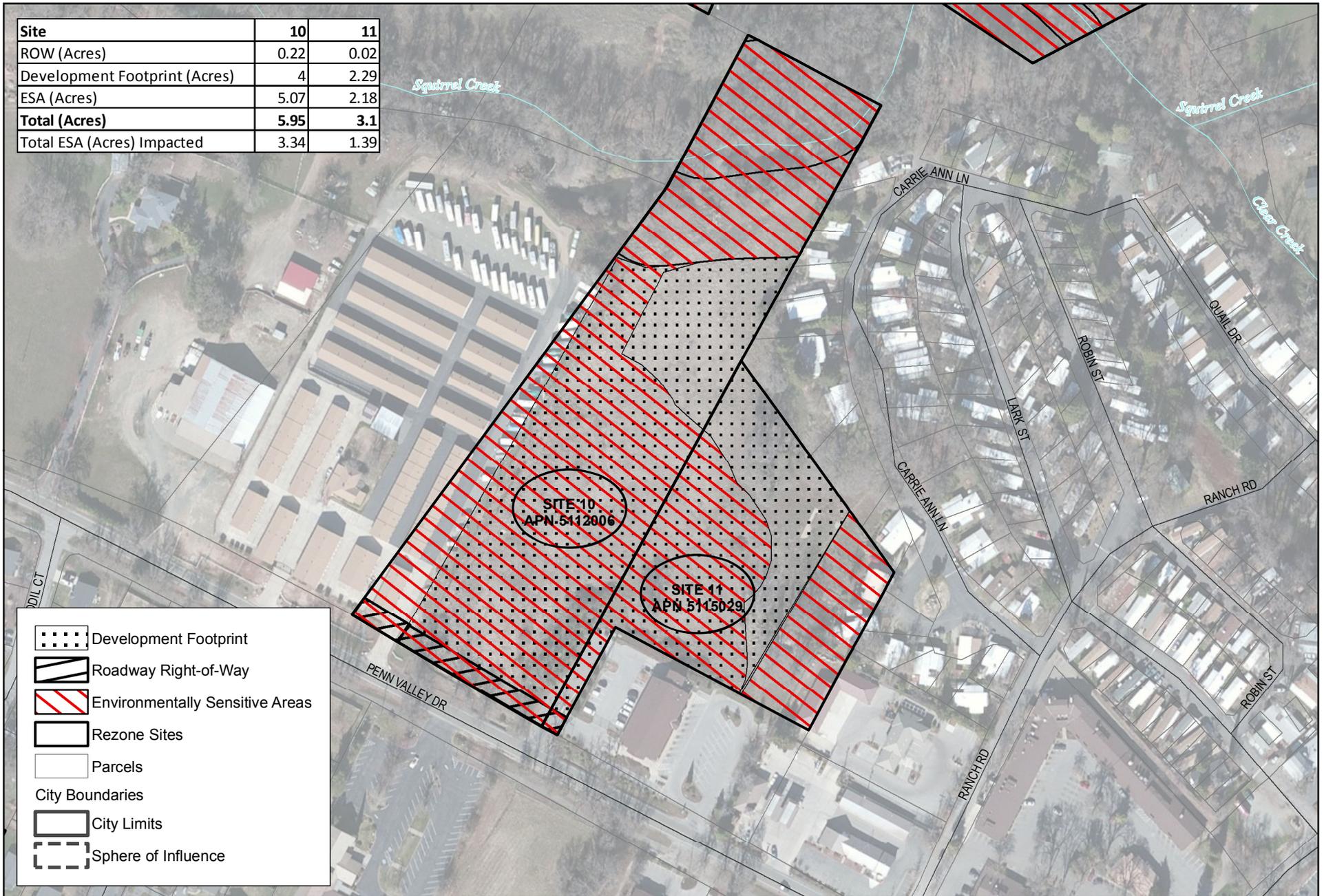
Site 2	Acres
ROW	0.49
Development Footprint	7.64
ESA	3.46
Total	11.36
Total ESA Impacted	0.23

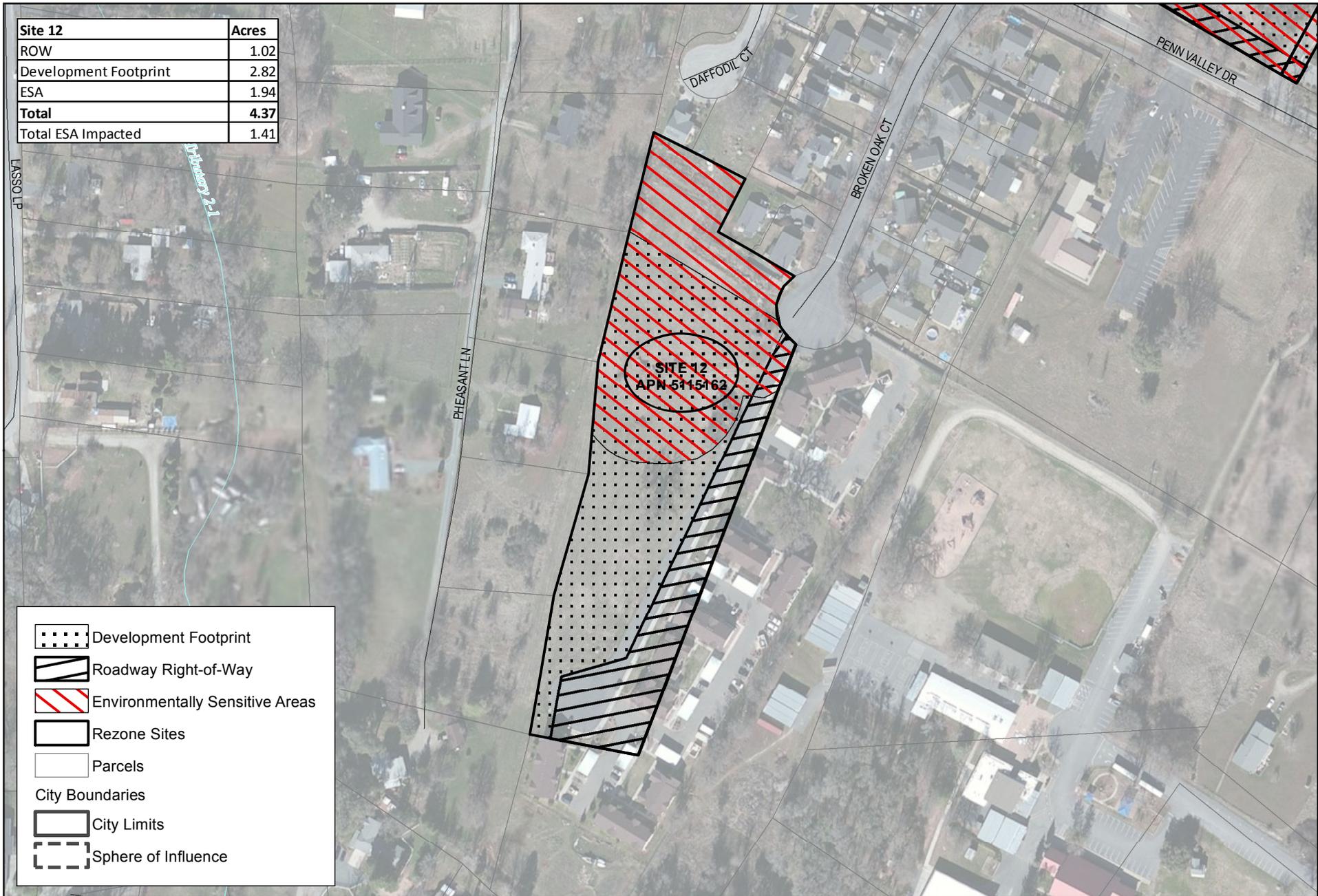


Site	3	4	5	6	7	8	9
ROW (Acres)	0.69	0	0.02	0.25	0.19	0.39	0
Development Footprint (Acres)	7.39	11.35	4.48	9.45	4.26	3.32	4.85
ESA (Acres)	1.25	0	0	0	6.77	7.49	1.64
Total (Acres)	9.15	11.35	4.5	9.7	9.9	10.43	6.49
Total ESA (Acres) Impacted	0.18	0	0	0	1.32	0.77	0

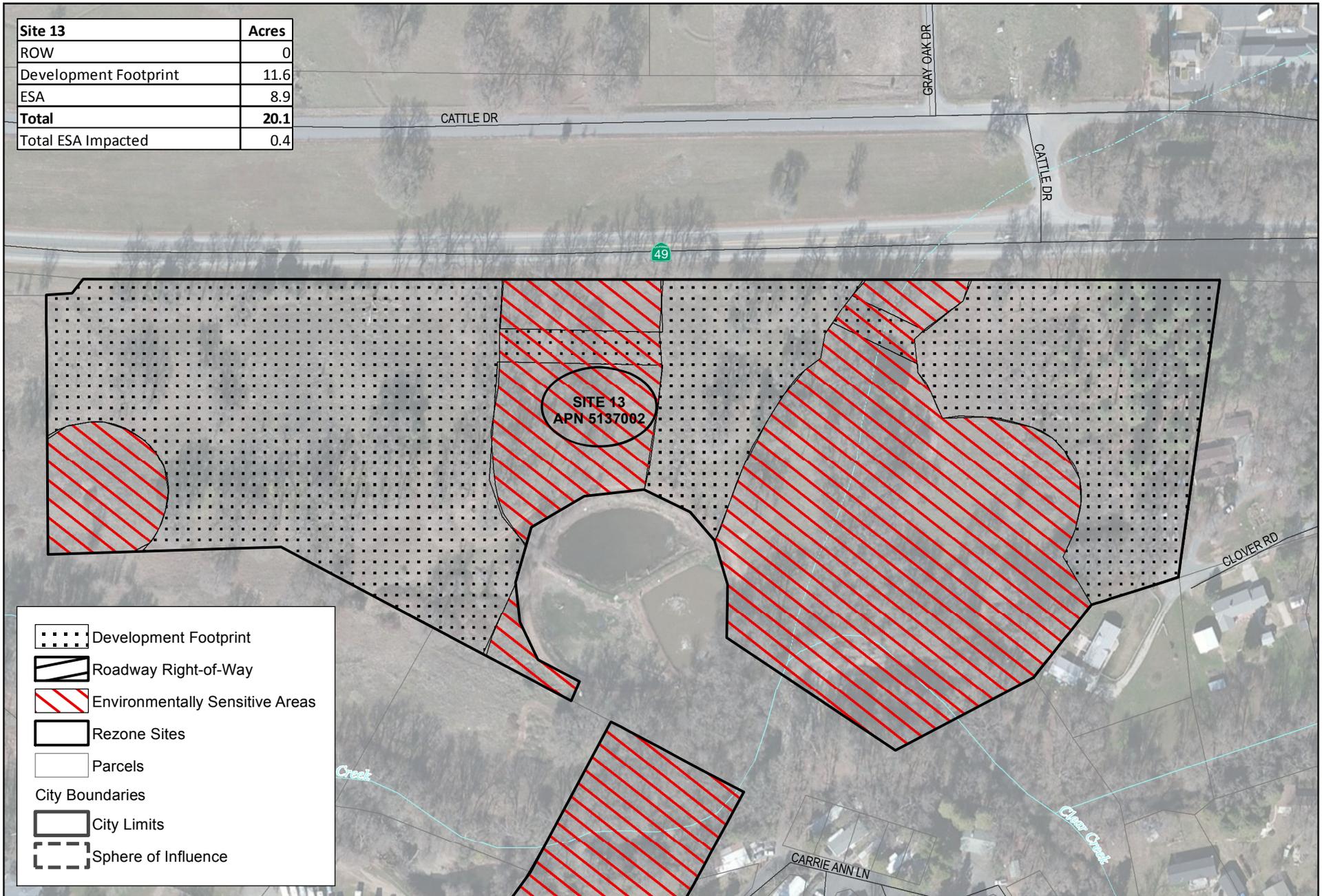


Site	10	11
ROW (Acres)	0.22	0.02
Development Footprint (Acres)	4	2.29
ESA (Acres)	5.07	2.18
Total (Acres)	5.95	3.1
Total ESA (Acres) Impacted	3.34	1.39

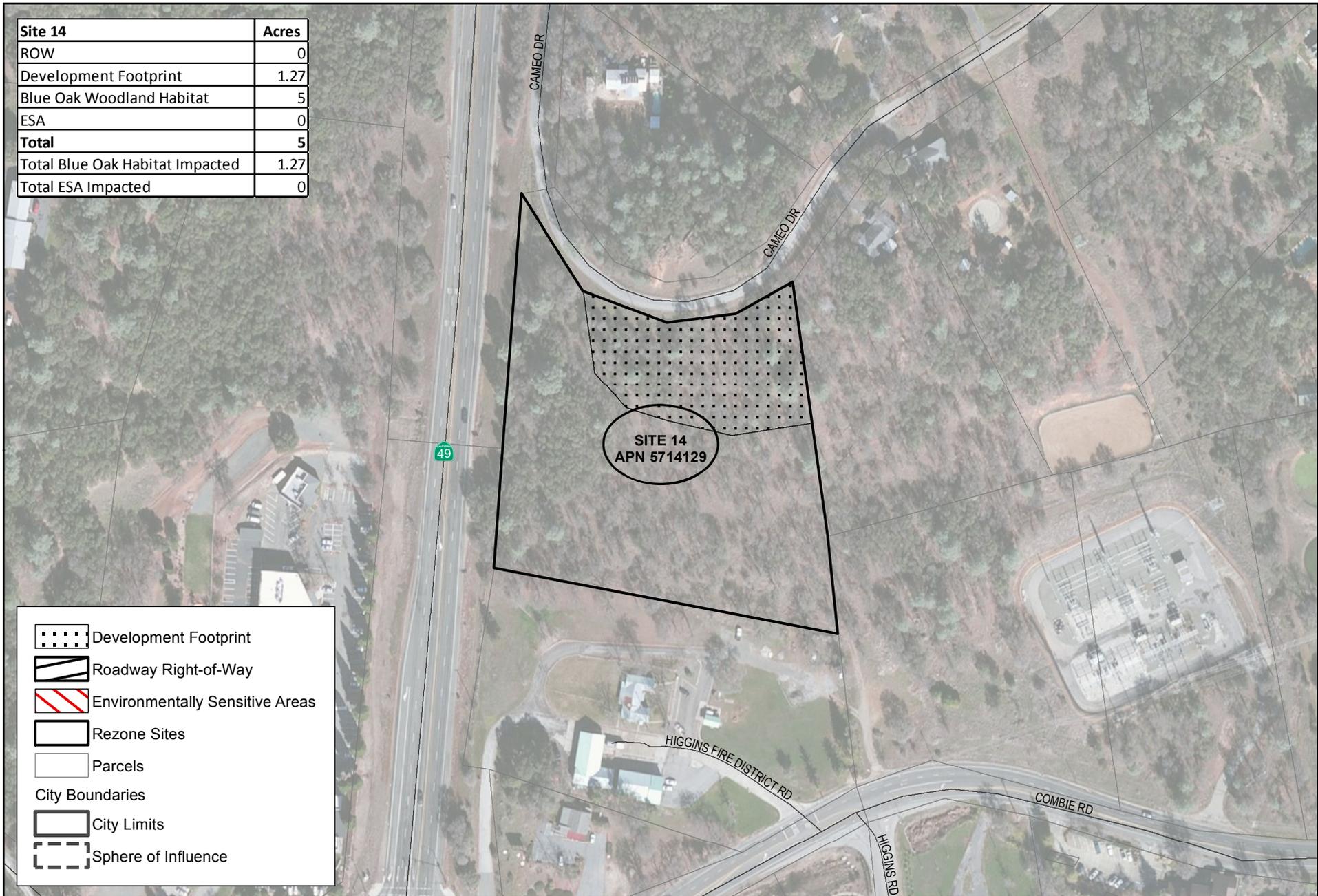




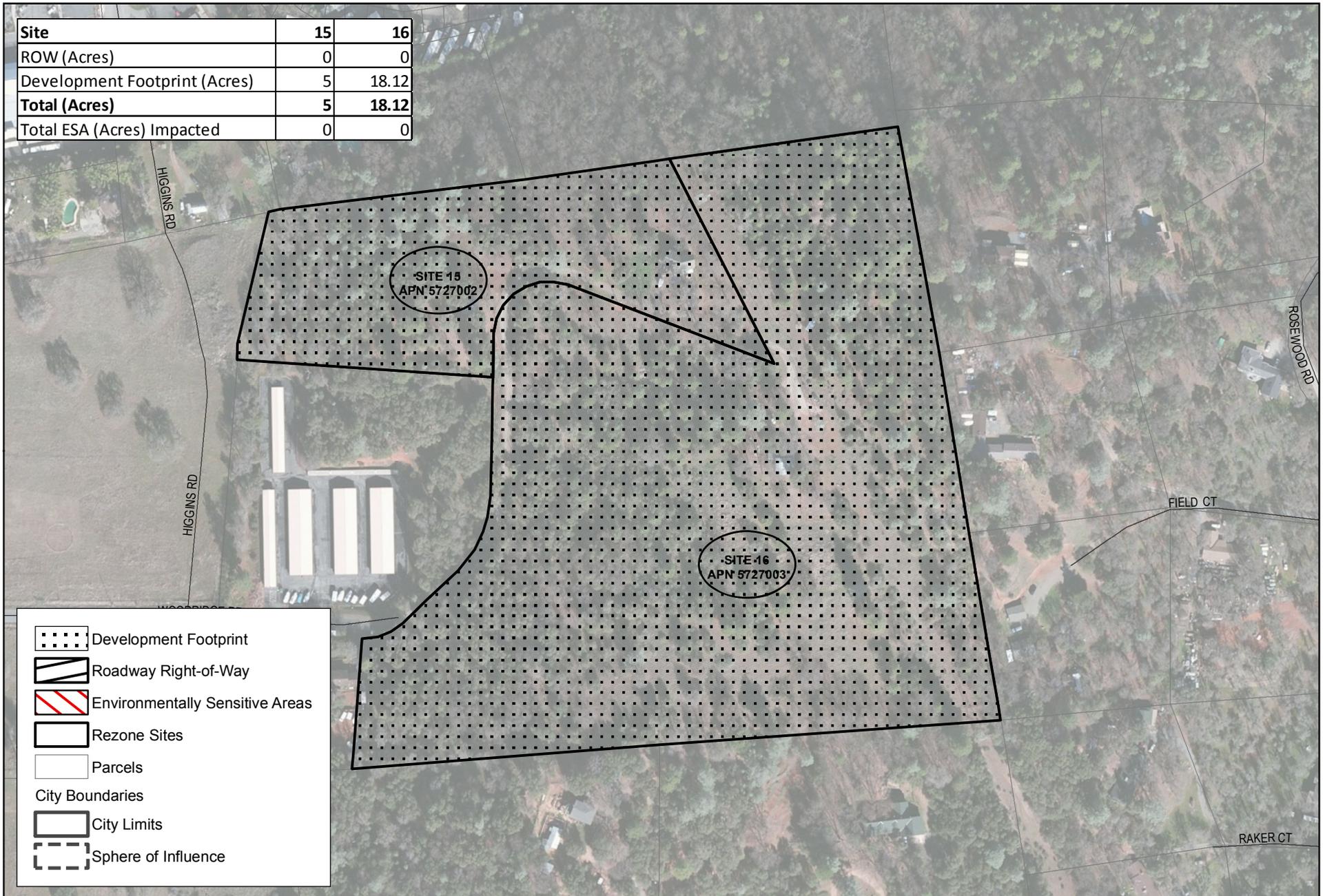
Site 13	Acres
ROW	0
Development Footprint	11.6
ESA	8.9
Total	20.1
Total ESA Impacted	0.4



Site 14	Acres
ROW	0
Development Footprint	1.27
Blue Oak Woodland Habitat	5
ESA	0
Total	5
Total Blue Oak Habitat Impacted	1.27
Total ESA Impacted	0



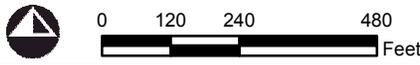
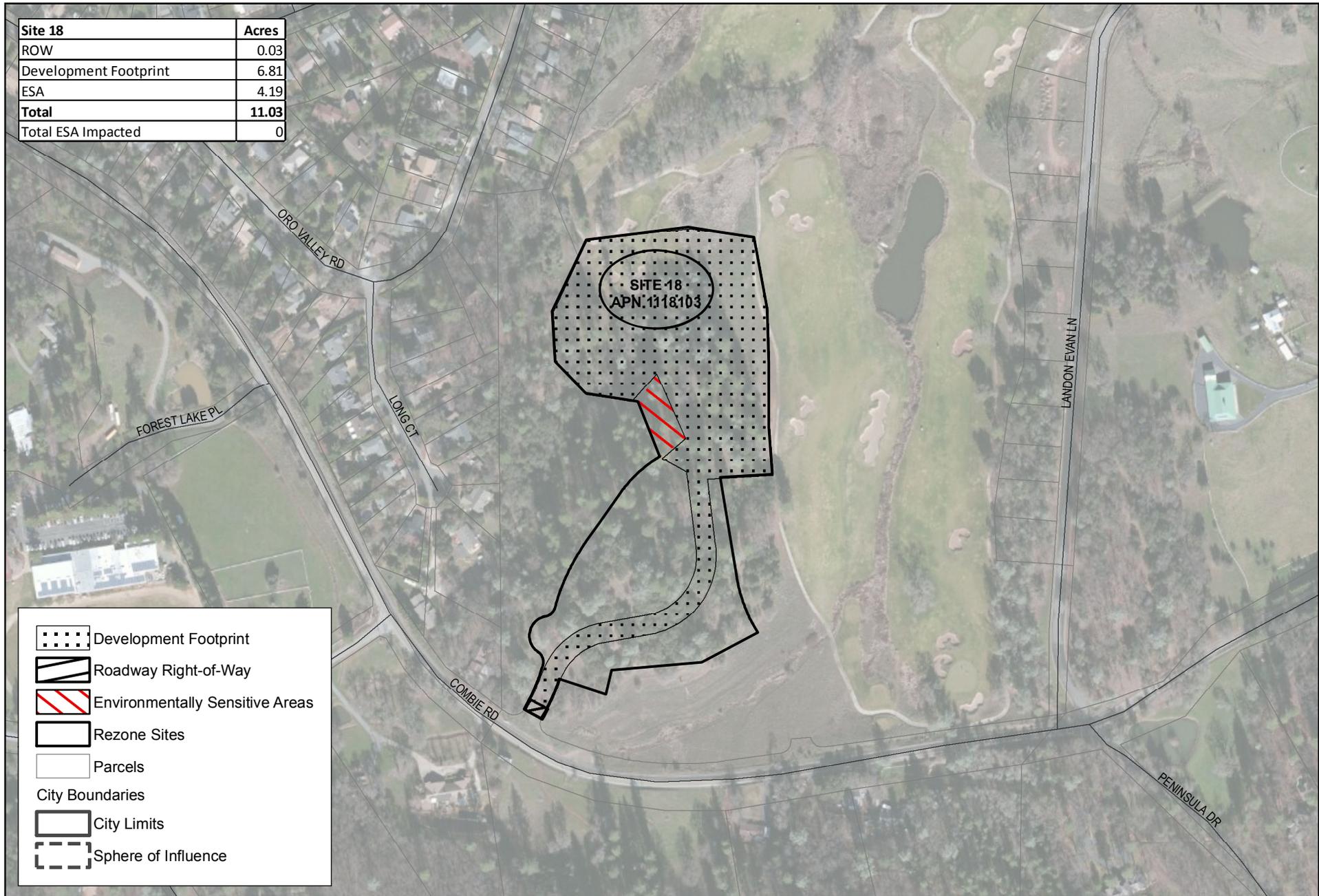
Site	15	16
ROW (Acres)	0	0
Development Footprint (Acres)	5	18.12
Total (Acres)	5	18.12
Total ESA (Acres) Impacted	0	0



Site 17	Acres
ROW	0.28
Development Footprint	1.11
ESA	1.76
Total	2.36
Total ESA Impacted	0.79



Site 18	Acres
ROW	0.03
Development Footprint	6.81
ESA	4.19
Total	11.03
Total ESA Impacted	0



Source: Nevada County GIS 2013; ESRI 2013.

Site 18 - Environmentally Sensitive Areas and Building Footprints

Figure 3 -24

Site 13

Site 13 is constrained with two main drainages with riparian habitat that cross the site. ESAs have been designated over these areas for the protection of biological resources as well as to avoid development within the 100-year floodplain. The orientation of the drainages onsite results in three separate development areas. Two wetland crossings were assumed for this site to connect the development areas. There are no public road access points to the property, and as such, access is assumed to be off of SR-20. It is assumed the access to the site will be across from the Cattle Drive intersection directly across SR 20 from the project site.

Site 14

Site 14 does not have any ESA designations onsite, but it is almost entirely covered in Blue Oak woodland. Additionally, the project is on a hillside and is visible to northbound traffic on SR 49. Given the sensitive status of Blue Oak woodlands within the County, the development footprint was limited to approximately one acre on this site. Also, the small development area would limit the visibility of the proposed development and any manufactured slopes from SR 49. Access to the site would be off of Cameo Drive.

Site 15

All of Site 15 is assumed to be within the development footprint. Access to Site 15 is off of Woodside Road.

Site 16

All of Site 16 is assumed to be within the development footprint. Access to Site 16 is off of Woodside Road.

Site 17

Site 17 has wetland and riparian habitat associated with Ragsdale Creek that is within an ESA on the northern portion of the property. The ESA includes a 100-foot buffer for the wetland area. The impact area assumes a 30-foot roadway dedication along Combie Road for future roadway improvements.

Site 18

All of Site 18 is proposed for development. Access will be off of Combie Road and a 30-foot ROW dedication was assumed for future road improvements.

INFRASTRUCTURE**Water**

All of the proposed sites are located within the jurisdictional boundaries of the Nevada Irrigation District (NID). All of the project sites are located in areas where water service is currently available. Appropriately sized water mains would be extended onto the sites as required by the NID and County fire flow requirements to serve future development. NID requires payment of a capacity fee at the time of connection to their water system. Existing mains, storage facilities, and water treatment facilities would be sized to provide a more-than-sufficient flow of domestic water to the project. Some sites have existing water lines

that are located in the adjacent streets with little to no improvements required. Other sites will be required to extend water lines to the sites prior to developing on the property. Water infrastructure is discussed in more detail in Section 4.13 (Public Services and Utilities).

Storm Drainage

Storm drainage for the project sites would generally consist of collection and conveyance of surface runoff from impermeable areas. Drainage collection for future development would occur by a combination of curbs, valley drains, underground pipes and natural swales. All drainage systems would meet the prevailing storm detention requirements of the City of Grass Valley for sites within the Grass Valley SOI (Sites 1-9) and the remaining sites (Sites 10-18) would be subject to the requirements of the County. Detention facilities would incorporate features such as grassy swales, detention basins, infiltration areas, and overland discharges.

Sanitary Sewer

Grass Valley SOI - The sites within the Grass Valley SOI would be served by the City's existing wastewater treatment facility and collection system. The City requires a connection fee and payment of development mitigation fee each time a building permit is issued.

Penn Valley Area - The sites located within the Penn Valley Area (Sites 10-13) would be served by the Wildwood Wastewater Treatment Plant.

Lake of the Pines Area – Wastewater from the sites in the Lake of the Pines Area (Sites 14-18) would be conveyed to and treated at the Lake of the Pines Wastewater Treatment Plant (LOP WWTP) located approximately 1.2 miles east and south of the project site off Combie Road.

Utilities

All new frontage utilities, including electrical, telephone and cable TV/data lines would be placed underground and within public utility easements or public rights-of-way. Future developments would install conduits for underground utilities and the utility company would pull the actual wiring through the conduits.

Project site will use existing natural gas lines in locations where natural gas facilities are currently available. Those areas where existing natural gas facilities are not available would be served by propane gas.

3.4.3 ANNEXATION

The projects within the Grass Valley SOI would require annexation into the City of Grass Valley prior to developing those sites in accordance with increased density associated with the Regional Housing (RH) Combining District. Accordingly, the Nevada County LAFCO would be a responsible agency. In addition to annexing these properties into the City, LAFCO would also need to detach the area from the Nevada County Consolidated Fire District service area and add the area to the City Fire Department's service area.

3.5 PROJECT OBJECTIVES

The following are the project objectives:

- Identify private properties that can be feasibly rezoned to meet the County's obligation to provide high-density housing opportunities as required by state law;
- Increase high-density housing opportunities in different areas of unincorporated Nevada County;
- Identify properties with property owners that consent to participating in the County's program and agreed to have the RH Combining District on their properties;
- Identify properties that are large enough to support enough units to make developing affordable, high-density housing financially feasible;
- Identify participating properties that have reasonable access to existing infrastructure (e.g., public roads and utilities);
- Identify properties that have reasonable access to community services (e.g., public transportation, retail/grocery stores, employment opportunities);
- Protect the natural environment; and,
- Establish clear and effective site-specific development standards/mitigation measures for each rezoned property to ensure that the future development of high density housing on that site meets County development standards and does not result in significant and unavoidable environmental impacts.

3.6 INTENDED USE OF EIR

This EIR serves as the primary environmental document for the proposed land use designations and future development that would be undertaken in the Regional Housing Combining District. Development proposals will require Design Review consistent with LUDC Sec. L-II 2.7.11.C.5, and Subdivision Approvals if units are intended for individual ownership. However, development would not require additional discretionary review and would therefore not necessitate further environmental documentation.

This EIR is intended to cover all state and local government discretionary approvals that have been requested and those that may be required, to construct or implement the proposed project, whether or not they are explicitly listed below. The County is the lead agency for the project and has the principal discretionary authority over the review of project applications and consideration of project approvals. LAFCO is a responsible agency and has authority over the approval of the requested annexation.

This EIR covers the following project approvals:

- Rezone (Z12-002)
- General Plan Map Amendment(GP12-002)
- Certification of the EIR (EIR12-002)

In addition to the project applications listed above, future approvals requiring discretionary action include the following:

- Subdivision Approvals - if units are intended for individual ownership
- Design Review consistent with LUDC Sec. L-II 2.7.11.C.5

Future development projects also would require a number of ministerial approvals and actions, including:

- Demolition Permits
- Encroachment Permits
- Site Development Permits
- Infrastructure Construction Permits
- Grading Permits
- Improvement Plan Approvals
- Building Permits
- Occupancy Permits
- Utility Relocation

This EIR is also available for use by responsible and trustee agencies or other agencies that may have jurisdiction, approval authority or environmental review and consultation requirements for the project. These agencies may include:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- California Department of Fish and Wildlife (Streambed Alteration Agreement)
- California Department of Transportation (encroachment permit)
- California Office of Historic Preservation
- California Department of Toxic Substances Control
- California Regional Water Quality Control Board
- Nevada County Airport Land Use Commission
- Nevada County Local Agency Formation Commission (LAFCO) (annexation approval)
- Nevada County Transportation Commission
- Nevada County (encroachment and other permits)
- Nevada County Resource Conservation District
- Sierra Economic Development District
- Nevada Irrigation District
- Nevada County Sanitary District
- Northern Sierra Air Quality Management District

4.0 EXISTING CONDITIONS, ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES

4.1 INTRODUCTION

This chapter discusses the potential environmental impacts and presents the findings of the environmental analysis conducted for the proposed project. The following environmental issues are evaluated in Sections 4.2 through 4.15: Land Use and Planning, Aesthetics, Air Quality, Greenhouse Gas Emissions, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services and Utilities, Recreation, and Transportation/Traffic.

4.1.1 ORGANIZATION OF CHAPTER

Each of the sections in this chapter is organized as follows:

- **Existing Conditions** are on-site and surrounding environmental conditions in existence at the time of publication of the Notice of Preparation (NOP), as well as relevant regulatory standards and requirements.
- **Environmental Analysis** first specifies the applicable significance thresholds (i.e., criteria by which the level of significance of each potential impact is evaluated), and then describes changes that would result in the existing physical environment should the proposed project be implemented. The analysis focuses on the changes that might be significant impacts if the project is implemented.

Project impacts are identified within each section. A summary of the potential impact is presented first, its level of significance is specified second, environmental analysis is provided third, and any required mitigation is identified last. If mitigation is required, the section concludes with the residual level of significance after mitigation.

4.1.2 MITIGATION MEASURES

Mitigation measures are required as feasible when significant impacts are identified. Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments. Each mitigation measure is numbered sequentially so that it directly correlates to the impact it addresses.

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4.2 LAND USE AND PLANNING

This section evaluates the proposed project's compatibility with existing land uses and its consistency with relevant planning policies. For the most part, direct and indirect physical impacts resulting from project implementation are not addressed in this section, but rather in their appropriate technical sections of the EIR. For example, direct impacts such as dust and noise from project construction are addressed in Section 4.5 (Air Quality), and Section 4.11 (Noise), respectively.

4.2.1 ENVIRONMENTAL SETTING

SITE CHARACTERISTICS AND SURROUNDING LAND USES

Sites 1 through 9 (City of Grass Valley Sphere of Influence)

Site 1

Site 1 is located in the City of Grass Valley Sphere of Influence, in western Nevada County, adjacent to the western boundary of the City of Grass Valley (City). The site is currently undeveloped and relatively flat. Most of the site has been cleared from previous activities on the property, containing open grassland, with the remaining dominant vegetation habitat. Existing residential and commercial development is located in the vicinity of the site. Nearby uses include commercial uses such as a computer repair shop, a jujitsu studio, a fire station and the Nevada County fairgrounds located across McCourtney Road.

Site 2

Site 2 is located in the City of Grass Valley Sphere of Influence, in western Nevada County, adjacent to the northeastern boundary of the City. The site is currently undeveloped and of moderate slope. The site has a mix of Sierran mixed forest on the elevations and several large diameter oaks within the mixed Sierran forest. The southwest portion of the site along La Barr Meadows Road supports a small area with a mix of upland and wetland species. The site is located adjacent to a mix of commercial office professional uses to the north and light industrial uses to the south. State Route 49 is located just west of the site. Empire State Park is located to the northeast.

Sites 3 through 9

Sites 3 through 6 and Site 9 are contiguous. Sites 7 and 8, also contiguous, are located directly across Brunswick Road from Site 3. Because of their proximity, the sites have very similar characteristics and have the potential to be developed as one site. The combined acreage for the seven sites is 61.52 acres. The sites are currently undeveloped and of moderate slope. The sites have large trees and understory shrubs. A tributary to Wolf Creek runs along the extreme southeast parcel boundary adjacent to Sites 3 and 7. An intermittent stream bisects the west side of Site 7, parallel with Brunswick, and has associated riparian vegetation. Existing development in the vicinity of the sites includes office and professional uses including medical offices located north of the sites. Further north along Brunswick Road are a wide range of commercial and retail uses. To the east of the sites are multi-family residences along Sutton Way. To the south and east are a mix of large lot single family residences with some equestrian uses.

Sites 10 through 13 (Penn Valley Area)

Sites 10 through 13

These four sites are being evaluated together because the sites are contiguous or very close together. Because of their proximity, the sites have very similar characteristics and have the potential to be developed as one site. Sites 10 and 11 are under the same ownership, while Site 13 is under a separate ownership. These sites are located in the community of Penn Valley in the unincorporated area of Nevada County and not within a Sphere of Influence of another jurisdiction. These sites are currently undeveloped and relatively flat with little to no slope. Sites 10 and 13 have a portion of Squirrel Creek that runs across a portion of the properties with associated wetlands traversing the northern portion of Site 10 (covering approximately half of the site) and southeastern portion of Site 13. Although no drainages are present on Sites 11 and 12, both sites have small wet areas. Site 13 is the only site of this group with an oak woodland. Sites 11, 12, and 13 have scattered Landmark Oaks onsite. The sites are located adjacent to an existing mobile home park, post office, and self-storage business. Other uses in the area include a mix of single family residential, civic, commercial and light industrial businesses. These sites have nearby access to SR-20 located just north of the properties. A separated pedestrian and bicycle path runs on the northern side of Penn Valley Drive from Western Gateway Park east to just east of Pheasant Lane where it crosses to the south side of Penn Valley Drive. Collectively these sites compromise approximately 33.52 acres of developable land.

Sites 14-18 (Lake of the Pines Area)

Site 14

Currently, the site is undeveloped and is of moderate slope. This site contains a mature blue oak woodland which covers an estimated 80 percent of the site. The remainder of the site is covered with mixed interior live oak and blue oak. Most of the existing development immediately adjacent to the parcel to the north is single family residential development. To the west is SR 49. To the east is an electrical substation and some other utility infrastructure. South of the site are some commercial businesses that include some professional office uses and retail commercial area, including a commercial shopping center (Higgins Village) with a drugstore anchor tenant.

Sites 15 and 16

These two sites are being evaluated together because the sites are contiguous. Because of their proximity, the sites have very similar characteristics and have the potential to be developed as one site. The collective size of these sites is approximately 24 acres. The sites both have one existing single-family residence onsite and both are of moderate slope. Site 15 contains a narrow band of blue oak woodland along the western boundary of the parcel, with the remainder of the parcel consisting of oak woodland dominated by black oak. The area along western boundary of Site 16 supports oak woodland with some larger oaks scattered throughout site. Most of the existing development immediately adjacent to the parcels to the south and east is single family residential development. To the northwest is a retail commercial area, including a commercial shopping center (Higgins Village) with a drugstore anchor tenant. A self-storage building to the west is adjacent to the parcel boundary of Site 16. To the north are commercial businesses that include some professional office uses.

Site 17

The site is undeveloped and of moderate slope. A portion of Ragsdale Creek traverses the northern portion of the site. The creek supports riparian habitat. This site contains black oak dominated oak woodland outside of riparian zone. Most of the existing development immediately adjacent to the parcel to the west, south, and east is single family residential development. To the north is Combie Road and a small strip mall with commercial businesses that include some professional office uses.

Site 18

The site is undeveloped and of moderate slope. The southern half of the site is blue oak dominated oak woodland. Scattered larger oaks within oak woodland could qualify as Landmark Oaks. Most of the existing development immediately adjacent to the parcel to the west and south is single family residential development. To the north and east are fairways of the Dark Horse Golf Club. Combie Road borders the property to the south. This site is Phase IV of the Darkhorse Subdivision and is currently slated to accommodate up to 30 units of affordable housing as a condition of approval.

4.2.2 REGULATORY SETTING**LOCAL FRAMEWORK**

The proposed project areas are currently under the jurisdiction of Nevada County and within the City of Grass Valley's Sphere of Influence (SOI) and Planning Area.

Nevada County General Plan and Zoning Ordinance

The Nevada County General Plan (County General Plan) is the long term policy guide for physical development of the County. The County General Plan consists of central themes, goals, policies and implementation programs that help direct and shape the growth of the County. The Nevada County Zoning Ordinance (Zoning Ordinance) serves as the primary tool to implement and ensure consistency with the goals, objectives, and policies of the County General Plan by providing information on zoning types, site development standards, permitting requirements, allowed land uses and other development standards. The Zoning Ordinance applies to all land uses and development within the unincorporated areas of Nevada County.

Although all of the proposed project sites (Sites 1 through 18) are currently located within the County's jurisdiction, the proposed project assumes the annexation of Sites 1 through 9 into the City.

Land Use Element

The County has set a vision for future development within the region to be a balanced, self-sustaining community. As such, the County has developed the goals, polices, and land use patterns within the Land Use Element of the County General Plan which balances growth between rural and urban areas, as well as providing a balance between housing, employment, natural resources, and services in the County as a key element in maintaining the quality of life and unique character of the County.

Nevada County Land Use Designations

Sites 1 through 9

Sites 1 through 9 are currently located within the County of Nevada's jurisdiction and are governed by the County General Plan and Zoning Ordinance. In addition, these sites are also located within the Grass Valley Sphere of Influence and Planning Area and included within the City of Grass Valley General Plan Land Use Map. However, it should be noted that the sites are not included within the City's Zoning Map.

- Site 1 is designated as Office Professional (OP) on both the County's General Plan and Zoning Land Use maps. The OP General Plan designation is intended to provide for office uses, including business, medical, dental and other professional, as well as supporting business services, at intensities of development, which complement other commercial centers and are compatible in scale with nearby residential neighborhoods. The OP zoning designation provides for areas for the development of professional and administrative offices and related uses and structures that complement other commercial centers and are considered compatible with adjacent residential and related uses.
- Site 2 is designated as Business Park (BP) on both the County's General Plan and Zoning land site maps. The BP General Plan designation is intended to provide for a variety of related and mutually supporting manufacturing, distribution, processing, service, and research and development uses. The BP zoning district provides areas for a variety of related uses, including manufacturing, distribution, processing, service, and research and development.
- Sites 3 through 6, and Site 9 are designated as Urban Medium Density Residential (UMD) on the County's General Plan Land Use Map and zoned Medium Density – Planned Development Base District (R2-PD). The UMD designation is intended to provide for residential uses, including affordable single-family dwellings on smaller lots, and multi-family housing types at moderate densities, of up to six dwelling units per acre, in locations with convenient access to transportation facilities (including arterial and major collector roads and public transit), shopping and services, employment, recreation and other public facilities. Areas of urban medium density residential use may provide locations appropriate for the development of affordable housing through clustering of single-family residences or other design techniques. The R2 zoning designation provides for moderate density multiple-family housing, as well as other dwelling unit types, permitting densities up to six dwelling units. The PD is appropriate for the development of affordable housing through clustering of residences or other design techniques.
- Sites 7 and 8 are designated as Urban Medium Density Residential (UMD) and zoned Residential Agriculture with a density equivalent to 1.5 acre minimum parcel size (RA-1.5). The UMD designation is intended to provide for residential uses, including affordable single-family dwellings on smaller lots, and multi-family housing types at moderate densities, of up to six dwelling units per acre, in locations with convenient access to transportation facilities (including arterial and major collector roads and public transit), shopping and services, employment, recreation and other public facilities. Areas of urban medium density residential use may provide locations appropriate for the development of affordable housing through clustering of single-family residences or other design techniques. The RA-1.5 zoning designation established provisions for low-density single-family dwellings.

Sites 10 through 13

- Sites 10 and 11 are designated as Community Commercial (CC) on the County's General Plan Land Use Map and zoned Community Commercial - Site Performance Combining District (C2-SP). The CC designation is intended to provide a wide variety of commercial uses, and limited mixed use employment opportunities, to serve large geographic areas with a wider range of goods and services than are available in Neighborhood Commercial areas. The C2 District is intended to provide a wide range of retail and service uses that serve the varied needs of large geographic areas. The purpose of the SP District designation is to provide for refinements in the site development standards and/or the permitted uses in the base zone district with which the SP District regulations are combined.
- Site 12 is designated as Urban Medium Density Residential (UMD) on the County's General Plan Land Use Map and zoned Medium Density - Site Performance Combining District (R2-SP). The UMD designation is intended to provide for residential uses, including affordable single-family dwellings on smaller lots, and multi-family housing types at moderate densities, of up to six dwelling units per acre, in locations with convenient access to transportation facilities (including arterial and major collector roads and public transit), shopping and services, employment, recreation and other public facilities. Areas of Urban Medium Density Residential use may provide locations appropriate for the development of affordable housing through clustering of single-family residences or other design techniques. The purpose of the SP zoning designation is to provide for refinements in the site development standards and/or the permitted uses in the base zone district with which the SP District regulations are combined.
- Site 13 is designated as Planned Development (PD) and zoned Interim Development Reserve - Site Performance Combining District (IDR-SP). The PD designation is intended to designate planned developments in locations where a mix of uses is desirable. The PD designation may allow a variety of land uses, including single-family and multi-family, residential, commercial, industrial, open space, and/or other land uses consistent with the capability and constraints of the land. Primary emphasis for development should be placed on clustering intensive land uses to minimize impact on various natural and man-made resources, minimize public health concerns, and minimize aesthetic concerns. The IDR is a special purpose district zone. The IDR District is intended to be used as an interim zoning district to reflect and reserve the development potential of property designated as Planned Development and Special Development Area in the General Plan. The purpose of the SP District designation is to provide for refinements in the site development standards and/or the permitted uses in the base zone district with which the SP District regulations are combined.

Sites 14 through 18

- Site 14 is designated as Office Professional (OP) and zoned Office Professional – Scenic Corridor Combining District – Site Performance Combining District (OP-SC-SP). The General Plan designation is intended to provide for office uses, including business, medical, dental and other professional, as well as supporting business services, at intensities of development, which complement other commercial centers and are compatible in scale with nearby residential neighborhoods. The OP zoning designation provides for areas for the development of professional and administrative

offices and related uses and structures that complement other commercial centers and are considered compatible with adjacent residential and related uses. The SC District provides for the protection and preservation of scenic resource areas which are adjacent to highways and roads which have been identified as having high scenic quality and require protection for the benefit of residents and visitors. The purpose of the SP District designation is to provide for refinements in the site development standards and/or the permitted uses in the base zone district with which the SP District regulations are combined.

- Sites 15 and 16 are designated Planned Development (PD) and zoned Interim Development Reserve – Scenic Corridor Combining District - Site Performance Combining District (IDR-SC-SP). The PD designation is intended to designate planned developments in locations where a mix of uses is desirable. The PD designation may allow a variety of land uses, including single-family and multi-family, residential, commercial, industrial, open space, and/or other land uses consistent with the capability and constraints of the land. Primary emphasis for development should be placed on clustering intensive land uses to minimize impact on various natural and man-made resources, minimize public health concerns, and minimize aesthetic concerns. The IDR is a special purpose district zone. The IDR District is intended to be used as an interim zoning district to reflect and reserve the development potential of property designated as Planned Development and Special Development Area in the General Plan. The SC District provides for the protection and preservation of scenic resource areas which are adjacent to highways and roads which have been identified as having high scenic quality and require protection for the benefit of residents and visitors. The purpose of the SP District designation is to provide for refinements in the site development standards and/or the permitted uses in the base zone district with which the SP District regulations are combined.
- Site 17 is designed as Urban Medium Density Residential (UMD) on the General Plan Land Use Map and zoned Medium Density - Scenic Corridor Combining District - Site Performance Combining District (R2-SC-SP). The UMD designation is intended to provide for residential uses, including affordable single-family dwellings on smaller lots, and multi-family housing types at moderate densities, of up to six dwelling units per acre, in locations with convenient access to transportation facilities (including arterial and major collector roads and public transit), shopping and services, employment, recreation and other public facilities. Areas of Urban Medium Density Residential use may provide locations appropriate for the development of affordable housing through clustering of single-family residences or other design techniques. The SC District provides for the protection and preservation of scenic resource areas which are adjacent to highways and roads which have been identified as having high scenic quality and require protection for the benefit of residents and visitors. The purpose of the SP District designation is to provide for refinements in the site development standards and/or the permitted uses in the base zone district with which the SP District regulations are combined.
- Site 18 is designated as Urban Single-Family Residential (USF) on the General Plan Land Use Map and zoned Single-Family – Planned Development - Site Performance Combining District (R1-PD-SP). The USF designation is intended to provide for single-family residential uses (and for other dwelling unit types with a conditional use permit) at densities of up to four dwelling units per acre. The R1 District implements the General Plan’s USF designation. It is intended to provide for single-family

dwellings, as well as other dwelling unit types, at densities of up to four dwelling units per acre. The PD is appropriate for the development of affordable housing through clustering of residences or other design techniques. The purpose of the SP District designation is to provide for refinements in the site development standards and/or the permitted uses in the base zone district with which the SP District regulations are combined.

Nevada County Airport Land Use Compatibility Plan

The Nevada County Airport is approximately 0.50 mile to the east/southeast of Sites 3 through 9. The Nevada County Airport Land Use Compatibility Plan (ALUCP) was adopted by the Nevada County Airport Land Use Commission (ALUC) on September 21, 2011. The plan sets compatibility criteria applicable to local agencies in their preparation or amendment of land use plans and ordinances and to land owners in their design of new development. The influence area extends 1.7 miles from the airport's runway. The plan is used by the ALUC staff to define compatibility for noise, safety, airspace protection, and overflight as it pertains to newly proposed projects in the vicinity of the Airport. Future development on Sites 3 through 9 will require adherence to ALUCP policies and requirements.

City of Grass Valley Sphere of Influence and Planning Area

Grass Valley's Sphere of Influence is the area that lies directly outside the City limits that the City expects to annex, grow into, and provide urban services to in the future. Sites 1 through 9 are within the City's SOI. Sites 1 through 6 and 9 are within the area identified as the City's Near Term area with regards to the City's projected annexation timelines. Sites 7 and 8 are within the Long Term area. The Local Agency Formation Commission (LAFCO) of the County determines the City's Sphere of Influence at the request of the City. LAFCOs are responsible for coordinating logical and timely changes in local government boundaries.

The Grass Valley Planning Area is the portion of County land outside the City's SOI where development could have an impact on the City's planning efforts. Grass Valley's Planning Area is larger than its Sphere of Influence, as it extends well beyond the area that the City expects to grow into in the future. Nevada County is responsible for planning the anticipated growth and development patterns of the lands that are outside of Grass Valley's Sphere of Influence, but inside the City's Planning Area.

City of Grass Valley Annexation Resolution

The Grass Valley City Council adopted Resolution No. 03-39 in July 2003. The resolution establishes policies and procedures for the processing and review of special development areas and annexations. Specifically, the resolution requires that each special development area or annexation application demonstrate written compliance with the following priorities:

- Provision of affordable workforce housing and a mix of housing types
- Integration of community design principles from the General Plan
- Future transportation/infrastructure needs and current project-related deficiencies
- Future park/recreation facility needs and maintenance costs
- Future short- and long-term fiscal impacts
- Definition of annexation boundaries, phasing, and rate of growth
- Consistency with General Plan policies and Sphere of Influence Plan

In addition, Resolution No. 03-39 requires each special development area or annexation application to adhere to specific procedures during the application process, including the following procedures, which would be applicable to the project's proposed annexations:

- For all annexations, applications shall be required to prepare a Fiscal Impact Analysis of the entire annexation area.
- For all annexations proposing a change in land use designations or mix established for the property by the General Plan in the amount of 20 percent or more of its acreage or density, an economic/market analysis shall be prepared that verifies the project does not impact the existing tax base, jobs/housing balance, and regional market demand.

City of Grass Valley 2020 General Plan

The City of Grass Valley 2020 General Plan (2020 General Plan) is a comprehensive plan for growth and development in the City and the surrounding unincorporated area. It establishes the goals, objectives, and policies that guide the City's physical growth and development during the timeframe of the plan (2000-2020). The intent of the 2020 General Plan is to preserve, protect, maintain, and enhance the quality of life in Grass Valley. The City adopted the 2020 General Plan in November 1999. It addresses the following topics or elements: Land Use, Circulation, Conservation/Open Space, Noise, Safety, Recreation, Historical, and Community Design. In addition, the City adopted a Mineral Management Element in 1993 that was incorporated into the General Plan at that time. The Conservation/Open Space Element of the 2020 General Plan supplements, but does not replace the Mineral Resources Element adopted by the City in 1993.

Land Use Element

The Land Use Element of the 2020 General Plan is broad in scope. Its purpose is to designate the proposed general distribution, location, and extent of the various land uses in the City. It also establishes specific goals, objectives, policies, and implementation actions and strategies to guide land use in the City and its Sphere of Influence.

As previously noted, Sites 1 through 9 are currently governed by the County of Nevada, but are located within the City of Grass Valley Sphere of Influence. In addition, the City's General Plan Land Use Map provides land use designations for these sites. However, as the City does not govern these sites, there are no zoning designations applied on Sites 1 through 9 by the City. As the proposed project assumes the annexation of Sites 1 through 9 into the City both the County's designations (as provided above) and the City's land use designations are applicable to these proposed project sites.

- Similar to the County, Site 1 is designated as Office Professional (OP) on the City of Grass Valley General Plan Land Use Map. The OP classification provides for concentrations of free-standing offices and large office complexes. The designation is intended to facilitate both offices and supporting activities and land uses.
- Similar to the County, Site 2 is designated as Business Park (BP) on the City of Grass Valley General Plan Land Use Map. The intent of the BP designation is to accommodate a variety of employment-generating land uses in a master-planned, campus-type setting, designed to preserve and enhance the natural environment and to be fully integrated into the larger community.
- Similar to the County, Sites 3 through 9 are designated as Urban Medium Density (UMD). UMD is intended to accommodate single-family detached and attached homes,

single family patio homes, duplexes and town houses. UMD requires between 4.01 and 8.0 residential units per gross acre.

Mineral Management Element

As noted above, in 1993 the City adopted a Mineral Management Element and incorporated it into the General Plan. The City prepared the Mineral Management Element to comply with the requirements of the California State Surface Mining and Reclamation Act (SMARA) of 1975. SMARA was enacted to promote the conservation of the state's mineral resources and ensure adequate reclamation of mined lands. The primary goal of the Mineral Management Element is to "recognize and protect where feasible valuable mineral resources for current and future generations in a manner that does not create land use conflicts."

As indicated in the Mineral Management Element, Sites 1 through 9 are located in a Mineral Management Area. All Mineral Management Areas within the City and its Planning Area are classified as MRZ-2. This classification identifies areas that contain potentially significant mining deposits that are either present or have a high likelihood of being present. However, according to the Mineral Management Element, none of the sites in the Grass Valley Sphere of Influence are within an area targeted by the City for conservation and possible future mineral extraction.

City of Grass Valley Development Code

The City of Grass Valley Development Code carries out the policies of the 2020 General Plan by classifying and regulating the uses of land and structures within the City, consistent with the General Plan. The purpose of the Development Code is to protect and promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents and businesses in the City. The City's existing Zoning Map does not identify zoning designations for the Sites 1 through 9 since they are not currently located within City limits. However, after the annexation of the sites into the City of Grass Valley, the sites would be governed by the Grass Valley Development Code.

4.2.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact on land use or planning if it would:

- Physically divide an established community
- Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect
- Conflict with any applicable habitat conservation plan or natural community plan

AREAS OF NO PROJECT IMPACT

The following impacts either are not applicable to the project or are not reasonably foreseeable:

- Physical division of an established community
- Conflicts with habitat conservation or natural community plans

The project proposes to annex approximately 73.96 acres of unincorporated land into the City of Grass Valley. The addition of this land to the City would not physically divide an established community. Rather, it would extend the City limits to the southeast and northeast into Nevada County. Moreover, the low density residential uses and business and industrial parks that surround the land do not form an established community. In addition, the existing General Plan land use policies and development regulations would help to ensure the cohesive planning and development of the primarily undeveloped land and its integration with the surrounding area. Consequently, the project would not result in the physical division an established community. Furthermore, as there are no habitat conservation plans or natural community conservation plans that apply to the project areas, the proposed project would not conflict with any such plans.

PLAN, POLICY, AND REGULATION CONSISTENCY

4.2-1 THE PROPOSED PROJECT COULD CONFLICT WITH AN APPLICABLE LAND USE PLAN, POLICY, OR REGULATION OF AN AGENCY WITH JURISDICTION OVER THE PROJECT SITE.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

Nevada County General Plan and Land Use Development Code (Zoning Ordinance)

Consistency of the proposed project with the applicable goals, objectives, and policies of the Nevada County General Plan is presented below in Table 4.2-1, *Nevada County General Plan Consistency Analysis*. It should be noted that a policy conflict would not in and of itself be considered a significant environmental impact under CEQA.

The proposed project would require Sites 1 through 9 to annex into the City of Grass Valley. After that occurs, the Nevada County General Plan and Zoning Ordinance would no longer govern the sites, as they would then be governed by the Grass Valley 2020 General Plan and Development Code. It should be noted that both the Nevada County General Plan and the Grass Valley 2020 General Plan identify the project areas for development. The remaining sites, Sites 10 through 18, are within Nevada County and are governed by the Nevada County General Plan and Zoning Ordinance.

As previously noted current designations include Office Professional (OP), Business Park (BP), Community Commercial (CC), Urban Medium Density Residential (UMD), Planned Development (PD), and Urban Single-Family Residential (USF), while current zoning designations include Office Professional (OP), Business Park (BP), Medium Density (R2), Residential Agriculture (RA), Community Commercial (C2), Interim Development Reserve (IDR), and Single-Family (R1), and three different combining districts including Planned Development (PD), Scenic Corridor Combining District (SC), and Site Performance Combining District (SP); refer to Section 4.2.2 (Regulatory Framework) for permitted uses under the existing General Plan and zoning land use designation for each site. As the proposed project proposes densities of 16 or 20 units per acre, the proposed project is inconsistent with current General Plan and Zoning designations for the proposed project sites. As such, the proposed project would require General Plan and Zoning amendments to ensure consistency with the proposed general plan and zoning designations of the sites; High Density (R3) District and Regional Housing Need (RH) Combining District. Amending the General Plan to Urban High Density Residential and rezoning the sites to R3 would permit

densities of up to 20 dwelling units per acre within the Grass Valley SOI and 16 units per acre within the unincorporated County, while the RH Combining District would allow densities ranging from 16 to 20 units per acre. Therefore, with implementation with the proposed General Plan and Zoning Amendments, the proposed densities would not conflict with a Nevada County applicable land use plan, policy, or regulation of an agency and there would be no impact in this regard.

Furthermore, given the mix of existing developments in the surrounding areas, including industrial, office, commercial, recreational, single-family residential, and medium density residential, development of higher density affordable housing would be compatible with the surrounding land uses.

**Table 4.2-1
Nevada County General Plan Consistency Analysis**

Goals, Objectives, and Policies	Consistency of Proposed Project
Nevada County Land Use Element	
<p>Goal 1.1: Promote and encourage growth in <i>Community Regions</i> while limiting growth in <i>Rural Regions</i>.</p>	<p>Consistent. All the proposed project sites are located within <i>Community Regions</i>. Incorporating high-density multi-family residential uses adjacent to a mix of uses such as residential, commercial, industrial, and open space/recreation would promote the continued growth centered in the <i>Community Regions</i>.</p>
<p>Objective 1.1: Define and maintain a distinct boundary between <i>Rural</i> and <i>Community Regions</i>.</p>	<p>Consistent. All the proposed project sites are located within <i>Community Regions</i>. Incorporating high-density multi-family residential uses adjacent to a mix of uses such as residential, commercial, industrial, and open space/recreation would promote the continued growth centered in the <i>Community Regions</i>.</p>
<p>Policy 1.2: Within Nevada County, the <i>Community Regions</i> are established as the areas of the County within which growth should be directed to provide compact, areas of development where such development can be served most efficiently and effectively with necessary urban services and facilities.</p>	<p>Consistent. The proposed project sites were selected due to their location adjacent to a variety of existing land uses including, residential, commercial, retail, office, public, industrial, open space/recreation/park, and existing infrastructure, including roadways and water and sewer lines.</p>
<p>Goal 1.2: Recognize and allow for a range of land uses that preserve the qualities of each <i>Rural</i> and <i>Community Region</i> and <i>Rural Place</i>.</p>	<p>Consistent. The proposed project would allow for the development of high-density multi-family residential uses adjacent to a mix of uses such as residential, commercial, industrial, and open space/recreation which is consistent with the existing qualities of the surrounding <i>Community Regions</i>.</p>
<p>Objective 1.2: Provide an appropriate range of land use designations to serve the needs of the residents of the County and with an adequate amount of land in each designation to provide a balanced pattern of development.</p>	<p>Consistent. The proposed project includes the development of up to approximately 2,675 new high-density multi-family low to very-low income housing units. This would allow for the development of the current 1,270 low and very-low income unmet housing needs the County identified in the 2009-2014 Nevada County General Housing Element.</p>
<p>Policy 1.3: To provide for an appropriate range of land use types and densities within the County, the following General Plan land use designations are established:</p> <ul style="list-style-type: none"> a. Urban High Density Residential (20 dwelling units per acre maximum within incorporated area's spheres of influence; 15 units per acre elsewhere) 	<p>Inconsistent. Sites 10 through 18 will develop a minimum of 16 units per acre within the unincorporated County and outside the Grass Valley Sphere of Influence, which is not consistent with this policy of the General Plan since these sites are not located within the Grass Valley Sphere of Influence, which allows up to 20 units per acre. However, it should be noted that, the proposed project would allow for the development of</p>

Table 4.2-1, continued

Goals, Objectives, and Policies	Consistency of Proposed Project
	high-density multi-family residential uses pursuant to the Housing Element of General Plan which requires the County to provide a balance of range of housing opportunities. In weighing the planning and environmental considerations of each site, the County determined that these sites provided the County with best opportunity to meet the Project Objectives included in Section 3.0.
<p>Policy 1.4: The General Plan is intended to provide for the development of Nevada County as a balanced community with adequate amounts of land designated in each land use category to achieve a balance among housing, employment, retail and commercial services, recreation, and public facilities. Multiple Family Residential (Urban High Density and Urban Medium Density) - up to 30 percent of total dwelling units</p>	<p>Consistent. The proposed project would allow for the development of high-density multi-family residential uses adjacent to a mix of uses such as residential, commercial, industrial, and open space/recreation resulting in a range of land use types and densities in the project areas.</p>
<p>Policy 1.5: The General Plan provides for future development in accordance with the following criteria for the various land use designations:</p> <p>a. Urban High Density Residential (UHD) is intended to provide for residential uses, including single- and multi-family housing types at higher densities, of up to 20 dwelling units per acre within incorporated area's spheres of influence and 15 units per acre elsewhere, in locations with a high degree of access to transportation facilities (including arterial and major collector roads and public transit), shopping and services, employment, recreation and other public facilities. Areas of Urban High Density Residential use are intended to provide locations appropriate for the development of affordable housing due to the higher density allowed and resulting cost efficiency in costs of land development and provision of services. Locations which are adjacent to or in close proximity to Community Commercial, Business Park or Industrial areas are considered appropriate for this designation.</p>	<p>Inconsistent. Sites 10 through 18 will develop a minimum of 16 units per acre within the unincorporated County and outside the Grass Valley Sphere of Influence, which is not consistent with this policy of the General Plan since these sites are not located within the Grass Valley Sphere of Influence, which allows up to 20 units per acre. However, it should be noted that, the proposed project would allow for the development of high-density multi-family residential uses pursuant to the Housing Element of General Plan which requires the County to provide a balance of range of housing opportunities. In weighing the planning and environmental considerations of each site, the County determined that these sites provided the County with best opportunity to meet the Project Objectives included in Section 3.0.</p>
<p>Policy 1.36: The County recognizes that amending the Plan through individual General Plan amendments for specific site changes may not be compatible with a comprehensive and internally consistent plan. Where General Plan amendments are considered on an individual basis, the following shall apply: The proposed amendment must be found to be:</p> <p>a. in the public interest; and</p> <p>b. consistent with the General Plan's central themes, goals, objectives, and policies.</p>	<p>Consistent. The proposed project includes the development of up to approximately 2,675 new high-density multi-family low to very-low income housing units. This would allow for the development of the current 1,270 low and very-low income unmet housing needs of the county identified in the 2009-2014 Nevada County General Housing Element.</p>
<p>Policy 1.37: The County shall continue to work closely with the municipalities within the County concerning planning and development of land within the municipalities' spheres of influence.</p>	<p>Consistent. Sites 1-9 were chosen based on the availability of existing infrastructure (e.g. roadways, wastewater mains, and potable water mains) and compatible types of development within the City of Grass Valley SOI. The proposed RH Combining District includes maximum densities that are consistent with existing City of Grass Valley Urban High Density zones. Another key factor in the selection of project sites was the willingness of property owners to participate in the</p>

Table 4.2-1, continued

Goals, Objectives, and Policies	Consistency of Proposed Project
<p>Policy 1.38: Within the City/Town spheres, the Nevada County General Plan Land Use Maps will generally reflect the City's/Town's General Plan land use mapping. In some instances, the County may provide for a less intensive land use due to infrastructure capability, environmental constraints or effect on land use and development patterns outside the city's sphere. However, the County's Plan will not preclude implementation of the City's/Town's Plan by providing for a significantly more intensive land use than the City's/Town's Plan.</p>	<p>rezoning process.</p> <p>Consistent. Sites 1-9 are located within the Grass Valley Sphere of Influence. Although the proposed project would change the General Plan designation of several sites within the Grass Valley SOI from Urban Medium Density to Urban High Density, or in the case of Sites 1 and 2 from Office Park to Urban High Density, the majority of the sites are already planned for residential uses. Additionally, the project sites were chosen based on their proximity to existing infrastructure and similar type of development.</p> <p>Sites 3-9 are surrounded on three sides by the incorporated areas of the City of Grass Valley with similar existing and planned development densities and intensities. As such, the proposed RH Combining District is not precluding implementation of the City's General Plan by providing a significantly more intensive use.</p>
<p>Policy 1.39: For all discretionary projects within a City's/Town's sphere, the County shall first request that the City/Town determine whether or not it desires to annex the project. If the City/Town does desire annexation, the applicant will be directed to the City/Town. If the City/Town does not desire annexation, the application will be referred to the City/Town for review and comment.</p> <p>In recognition of the preparation of the Truckee General Plan, the County shall provide, on an interim basis, for the collaborative review of major development projects within the unincorporated area of eastern Nevada County. This collaborative review process shall terminate upon adoption of the Town's General Plan and sphere of influence.</p>	<p>Consistent. Upon the development of Sites 1-9, future developers will be required to apply for annexation into the City of Grass Valley. If the City annexes the project, all development applications will be submitted to the City of Grass Valley Community Development Department or other City Departments as appropriate. None of the proposed sites are located in the vicinity of the Truckee General Plan.</p>
<p>Circulation Element</p>	
<p>Adverse physical changes to the environment related to project conflicts with Circulation Element goals, objectives and policies are discussed in Section 4.15 (Transportation/Traffic).</p>	
<p>Conservation/Open Space Element</p>	
<p>Adverse physical changes to the environment related to project conflicts with Conservation Element goals, objectives and policies are discussed in Sections 4.3 (Aesthetics), 4.5 (Air Quality), 4.6 (Biological Resources), and 4.10 (Hydrology and Water Quality), as appropriate.</p>	
<p>Noise Element</p>	
<p>Adverse physical changes to the environment related to project conflicts with Noise Element goals, objectives and policies are discussed in Section 4.11 (Noise).</p>	
<p>Safety Element</p>	
<p>Adverse physical changes to the environment related to project conflicts with Safety Element goals, objectives and policies are discussed in Sections 4.8 (Geology and Soils), 4.9 (Hazards and Hazardous Materials), 4.10 (Hydrology and Water Quality), and 4.15 (Transportation/Traffic).</p>	
<p>Recreation Element</p>	
<p>Adverse physical changes to the environment related to project conflicts with Recreation Element goals, objectives and policies are discussed in Section 4.14 (Recreation).</p>	
<p>Historical Element</p>	

Table 4.2-1, continued

Goals, Objectives, and Policies	Consistency of Proposed Project
Adverse physical changes to the environment related to project conflicts with Historical Element goals, objectives and policies are discussed in Section 4.3 (Aesthetics).	
Community Design Element	
Adverse physical changes to the environment related to project conflicts with Community Design Element goals, objectives and policies are discussed in Section 4.3 (Aesthetics).	

City of Grass Valley Annexation Resolution

As the proposed project would require the annexation of Sites 1 through 9 into the City of Grass Valley, the project developer would be required to submit written compliance with Grass Valley City Council Resolution No. 03-39, including identifying the following: affordable workforce housing opportunities; the incorporation of community design principles from the 2020 General Plan; existing transportation/infrastructure deficiencies in the project area and mitigation for project impacts on transportation/infrastructure; compliance with the park and recreation goals of the 2020 General Plan; funding for maintenance of proposed park and recreation opportunities; preparation of a fiscal impact analysis; rationale for annexation boundaries; proposed phasing and rate of growth; consistency with 2020 General Plan policies and the City’s Sphere of Influence Plan; and preparation of an economic/market analysis that verifies the project does not impact the existing tax base, jobs/housing balance, and regional market demand.

The City is listed as the implementing/monitoring agency for the mitigation measures listed in this report that apply to Sites 1-9. In the event that these sites do not annex into the City and do not require City services, the implementing/monitoring agency shall automatically default to the County of Nevada. In the event that the mitigation measure requires improvements to a City facility, such as an intersection already within the City limits, the City of Grass Valley shall remain as the implementing and monitoring agency regardless of whether or not the site is eventually annexed into the City.

City of Grass Valley 2020 General Plan

The project proposes the annexation of Sites 1 thorough 9 into the City. As discussed previously, after the annexation of the sites into the City, the 2020 General Plan would govern the sites. The 2020 General Plan forecasts development on Sites 1 through 9 through land use designations that include Office Professional (OP), Business Park (BP), and Urban Medium Density (UMD); refer to Section 4.2.2 (Regulatory Framework) for permitted uses under the existing General Plan. As the project proposes densities of multi-family high-density residential developments of 16 to 20 units per acre, the proposed project is inconsistent with current City of Grass Valley 2020 General Plan Land Use Map designation for the Sites 1 through 9. Conflicts with the existing Grass Valley General Plan would be considered significant.

As such, as part of the annexation process, Sites 1 through 9 would require a City of Grass Valley General Plan Amendment to change the land use designations which would allow densities up to 20 dwelling units per acre. It is assumed that future project applicants would be responsible to submit applications to amend the 2020 General Plan to allow the land uses and development standards proposed by the project. The potential conflicts would be addressed through policy agreements between the County of Nevada and City of Grass Valley.

Within the Grass Valley Sphere of Influence, the proposed project would allow for the development of 73.96 acres with a maximum 1,480 housing units. Under the current 2020 General Plan designations, 1.08 acres of Office Professional (OP), 11.36 acres of Business Park (BP), and 61.52 acres of medium residential with a development potential of 123 to 246 housing units would be allowed on Sites 1 through 9. Although the proposed project would result in a decrease in office/business development and an increase in housing units compared to the 2020 General Plan, these changes would not cause substantial disruption within the established community or conflicts with adopted plans and policies related to avoidance or mitigation of environmental effects.

Furthermore, given the mix of existing developments in the surrounding areas, including industrial, office, commercial, recreational, single-family residential, and medium density residential, development of higher density affordable housing would be compatible with the surrounding land uses.

The Mineral Management Element of the City of Grass Valley 2020 General Plan places Sites 1 through 9 within a Mineral Management Area. However, according to the Mineral Management Element, none of those sites are within an area targeted by the City for conservation and possible future mineral extraction. Thus, the proposed project located in this area would not conflict with the City's Mineral Management Element.

Consistency of the proposed project with the applicable goals, objectives, and policies of the City of Grass Valley's 2020 General Plan is presented below in Table 4.2-2, *City of Grass Valley's 2020 General Plan Consistency Analysis*. It should be noted that a policy conflict would not in and of itself be considered a significant environmental impact under CEQA.

Table 4.2-2
City of Grass Valley 2020 General Plan Consistency Analysis

Goals, Objectives, and Policies	Consistency of Proposed Project
Grass Valley Land Use Element	
Goal 1-LUG: Promote balanced community growth and development in a planned and orderly way.	Consistent. The proposed project would allow high-density multi-family residential development. Implementation of the proposed zoning amendment would promote the development of balanced housing types for the region.
Objective 1-LUO: Availability of sufficient building sites properly zoned to accommodate projected growth.	Consistent. As described in Section 4.12 (Population and Housing), the City's population as of 2011 is approximately 12,840 residents. The 2020 General Plan estimates that the City will grow to a population of approximately 23,395 by 2020, or increase by approximately 10,555 new residents. The proposed project's new residential units would provide homes for approximately 2,960 new residents, or approximately 30 percent of new residents estimated to move to the City between now and 2020.
Objective 2-LUO: Avoidance of future adverse environmental, public facilities and services impacts.	Consistent. As described in Section 4.13, the proposed project would not have significant impacts on public facilities and services that could not be mitigated.
Goal 3-LUG: In areas of new development, plan for a diversity of land uses and housing types, including mixed use developments.	Consistent. The project proposes high-density multi-family residential uses located adjacent to a variety of existing land uses including, residential, commercial, industrial, and open space/recreation/park. Including this type of uses further promotes diverse land uses in the area.

Table 4.2-2, continued

Goals, Objectives, and Policies	Consistency of Proposed Project
Objective 6-LUO: Reduction in congestion and travel time to acquire needed goods and services.	Consistent. The project proposes high-density multi-family residential uses located adjacent to existing commercial which would place consumers in closer proximity to needed goods and services and reduce the amount of time needed to acquire those goods and services.
Objective 7-LUO: Preservation of open space and unique property features.	Consistent. Future development on the project sites would be clustered to the maximum extent possible in order to conserve open space and natural features. Development would avoid sensitive vegetation, including wetlands and riparian vegetation.
Objective 8-LUO: Provision of a full range of housing opportunities and types.	Consistent. The project proposes high-density multi-family residential uses, affordable housing types, located adjacent to a variety of existing land uses including, residential, commercial, retail, office, public, industrial, and open space/recreation/park. Including this type of uses further promotes diverse land uses in the area. As such, implementation of the project would result in a more diverse range of housing types and values in the project areas.
Goal 5-LUG: Provide for a broad range of housing opportunities, including opportunities for low, moderate and middle income households.	Consistent. As noted above, the proposed project would provide for a more diverse range of housing types in the area from what currently exists that by design would be affordable to various income groups.
Objective 12- LUO: Designation of residential building sites sufficient in number and variety to meet projected demand.	Consistent. As identified under the discussion of project compliance with Objective 1-LUO, the proposed project would allow a maximum of approximately 2,680 multi-family units, with 1,480 of those units located within the Grass Valley Sphere of Influence, at buildout in ten to 20 years. Based on current population estimates, these new residential units would provide homes for approximately 2,960 out of the 10,757 new residents estimated to move to the City between now and 2020.
Objective 13-LUO: Provision of sufficient affordable housing units for those working in Grass Valley.	Consistent. The proposed project includes all proposed development as affordable housing within the proposed project areas.
Goal 6-LUG: Promote a jobs/housing balance within the Grass Valley region in order to facilitate pleasant, convenient and enjoyable working conditions for residents, including opportunities for short home to work journeys.	Consistent. The project proposes high-density multi-family residential uses located adjacent to a variety of existing land uses including, residential, commercial, retail, office, public, industrial, and open space/recreation/park. Including this type of uses further promotes diverse land uses in the area. Thus, a jobs/housing balance could be achieved that would reduce the amount of time required to travel to work, which in turn would create pleasant, convenient and enjoyable working conditions for residents.
Goal 9-LUG: Coordinate peripheral development with the County General Plan and appropriate entities currently providing services in the Planning Area.	Consistent. Nevada County, the Nevada Irrigation District (NID), the Nevada County Sanitary District, and the Nevada County Consolidated Fire District were contacted during the preparation of this Draft EIR.
Objective 26-LUO: Avoidance of land use and inter-jurisdictional conflict.	Consistent. Future project developers would initiate reorganization proceedings with the Nevada County LAFCO following adoption of a resolution approving the proposed annexation. The proposed reorganization would consist of annexation of territory to the City and detachment of the same territory from Nevada County.

Table 4.2-2, continued

Goals, Objectives, and Policies	Consistency of Proposed Project
	Coordination through LAFCO would avoid land use and inter-jurisdictional conflict.
Policy 2-LUP: Require adequate information when reviewing development proposals, including full environmental review and fiscal impact analyses, to assure minimization of environmental, public facilities and services impacts.	Consistent. The City required that the proposed project undergo full environmental review with the preparation of this Draft EIR as well as these sites will ensure to locate development closes to existing infrastructure, which would reduce housing-related construction costs and costs associated with extending infrastructure.
Policy 10-LUP: Annex properties within the Grass Valley Planning Area prior to or in conjunction with their development.	Consistent. The project proposes to annex Sites 1 through 9 into the City along with land use policies and development regulations specifically for high density multi-family residential use to guide future development of the site.
Policy 12-LUP: Permit increases in residential density (clustering) on portions of development sites while maintaining overall density.	Consistent. The project proposes to increase residential density and cluster all development on Sites 3 through 9 and Sites 10 and 11, as well as locating Sites 1 and 2 near existing mixed land uses including residential, commercial, industrial, and recreational uses.
Policy 14-LUP: Encourage incorporation of multiple family development in new development areas while maintaining high design standards.	Consistent. The project proposes the development of a maximum of approximately 2,680 multi-family units, with 1,480 of those units located within the Grass Valley Sphere of Influence, which would be subject to both County and City design standards established to create a high quality living environment that reflects the best qualities of traditional development in the surrounding areas.
Policy 22-LUP: Assure that a sufficient number of sites are zoned for multiple family use.	Consistent. All of the sites would be rezoned to a multiple family use through implementation of the proposed project, resulting in a maximum of approximately 2,675 multi-family units.
Policy 24-LUP: On large parcels, encourage clustering of residential units on the most developable portions of the site in order to reduce infrastructure and other housing-related construction costs.	Consistent. The project proposes to increase residential density and cluster all development on Sites 3 through 9, as well as locating the Sites 1 and 2 near existing mixed land uses including residential, commercial, industrial, and recreational uses. In addition, future developments would be encouraged to be located on the most developable portions of the site, closest to existing infrastructure, which would reduce housing-related construction costs and costs associated with extending infrastructure.
Policy 25-LUP: Utilize clustering and other land use techniques to protect environmentally sensitive resources, such as heritage trees and wetlands.	Consistent. Future development on the project sites would be clustered to the maximum extent possible in order to conserve open space and natural features. Development would avoid sensitive vegetation, including wetlands and riparian vegetation, as well as retain oaks.

Table 4.2-2, continued

Goals, Objectives, and Policies	Consistency of Proposed Project
Policy 28-LUP: Promote the construction of affordable housing utilizing the techniques and approaches described in this General Plan.	Consistent. The project proposes the clustering of Sites 3 through 9 as one development. Development would be located as close as possible to existing infrastructure, which would reduce housing-related construction costs.
Policy 37-LUP: Assure that new development pays its fair share of the cost of municipal services.	Consistent. Future development allowed under the proposed project would be required to pay County or City development impact fees. In addition, the most significant revenue generator would be property tax.
Policy 41-LUP: Request and respond to referrals from Nevada County concerning pending land use decisions within the Grass Valley Planning Area.	Consistent. The City of Grass Valley is a cooperating agency on the preparation and review of this Draft EIR.
Policy 44-LUP: Encourage the application of City standards throughout the City's Sphere of Influence.	Consistent. Environmental impacts and land use compatibility criteria associated with the proposed project sites located within the City's Sphere of Influence, Sites 1 through 9, included the goals, objectives, and policies provided in the City of Grass Valley 2020 General Plan and Zoning Ordinance.

Circulation Element

Adverse physical changes to the environment related to project conflicts with Circulation Element goals, objectives and policies are discussed in Section 4.15 (Transportation/Traffic).

Conservation/Open Space Element

Adverse physical changes to the environment related to project conflicts with Conservation Element goals, objectives and policies are discussed in Sections 4.3 (Aesthetics), 4.5 (Air Quality), 4.6 (Biological Resources), and 4.10 (Hydrology and Water Quality), as appropriate.

Noise Element

Adverse physical changes to the environment related to project conflicts with Noise Element goals, objectives and policies are discussed in Section 4.11 (Noise).

Safety Element

Adverse physical changes to the environment related to project conflicts with Safety Element goals, objectives and policies are discussed in Sections 4.8 (Geology and Soils), 4.9 (Hazards and Hazardous Materials), 4.10 (Hydrology and Water Quality), and 4.15 (Transportation/Traffic).

Recreation Element

Adverse physical changes to the environment related to project conflicts with Recreation Element goals, objectives and policies are discussed in Section 4.14 (Recreation).

Historical Element

Adverse physical changes to the environment related to project conflicts with Historical Element goals, objectives and policies are discussed in Section 4.3 (Aesthetics).

Community Design Element

Adverse physical changes to the environment related to project conflicts with Community Design Element goals, objectives and policies are discussed in Section 4.3 (Aesthetics).

City of Grass Valley Development Code

As none of the sites are currently within the City's jurisdiction, the City's existing Zoning Map does not identify zoning designations for the proposed project sites. The project proposes

the annexation of Sites 1 through 9 into the City. In addition, the project proposes the rezoning of these sites to accommodate high density multi-family residential developments. The proposed changes would require a Zoning Map amendment to reflect these changes. Given the mix of existing developments in the surrounding areas, including industrial, office, commercial, recreational, single-family residential, and medium density residential, development of higher density affordable housing would be compatible with the surrounding land uses.

Nevada County Airport Land Use Compatibility Plan

For a discussion regarding environmental impacts associated with consistency with the ALUCP, refer to Section 4.9 (Hazards and Hazardous Materials).

Mitigation Measure

This mitigation measure applies to all sites:

4.2-1 The County of Nevada shall develop a policy agreement with the City of Grass Valley regarding an exchange density calculations between the jurisdictions. The purpose of this agreement is to obtain parity among the jurisdictions regarding the provision of urban high density residential housing to satisfy state mandated housing requirements and other housing or density needs as appropriate. The County shall develop this agreement and submit to the City prior to the issuance of development permits for this first project site.

Level of Significance After Mitigation: Significant and Unavoidable. While the mitigation would address the density conflicts with the City of Grass Valley, the conflicts would remain until there was a change in the Grass Valley General Plan. Acceptance of an agreement by the City of Grass Valley or a change in the City's General Plan is outside the jurisdiction of the County and potential conflicts would remain significant and unavoidable.

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4.3 AESTHETICS

This section describes the existing aesthetic environment (both onsite and in the vicinity), and analyzes potential impacts on the aesthetic character of the site and surrounding area. A key focus is the effects of the proposed project as viewed from adjacent sensitive viewers to the project sites. Public scenic vistas, impacts on scenic resources from scenic highways, and the introduction of new sources of light and glare are also considered. The potential impacts associated with the proposed project are evaluated on a qualitative basis through an analysis of the project's physical effect on the scenic environment. The evaluation of project impacts is based on professional judgment, analysis of Nevada County's and City of Grass Valley's policies pertaining to aesthetics, light and glare, and the significance criteria established by Appendix G of the *CEQA Guidelines*. Where necessary, mitigation measures are recommended to reduce the significance of potential impacts.

This analysis is based upon applicable reference data from the Nevada County General Plan, adopted 1996, subsequently amended in 2008 and 2010; City of Grass Valley 2020 General Plan (2020 General Plan); the Nevada County Land Use Development Code; the City of Grass Valley Municipal Code; and, available U.S. Geological Survey (USGS) topographic maps.

4.3.1 ENVIRONMENTAL SETTING

VISUAL RESOURCES

Visual resources that characterize Nevada County include the rolling vistas of foothills, valleys, mountains, meadows, forests, wetlands and habitats unique to the Sierras. Scenic views within the County include mountain peaks such as Castle Peak, vistas of Donner Lake, and the gorge of the South Fork of the Yuba River. The County is predominantly rural in character, with development concentrated in Nevada City, Grass Valley and Truckee. The scenic values and aggregate appearance of all the cities, towns and suburban areas define the aesthetic quality of Nevada County. Outside of these communities, residences are scattered throughout the County. Many of these residents are screened from views by vegetation and topography, adding to the County's overall rural character. The proposed project is located within three distinct areas within Nevada County: Grass Valley Sphere of Influence; Penn Valley; and, Lake of the Pines. East of Nevada City, a portion of State Route 20 (SR-20), from Skillman Flat Campground to one-half mile east of Lowell Hill Road, approximately six miles in length, is an "Officially Designated State Scenic Highway" by the State of California. Although the majority of the remaining sections of SR-20, from near Grass Valley to Interstate 80 including the section near Penn Valley, are not "officially designated" as scenic highways, those sections are listed as "Eligible State Scenic Highways" by the State of California. The existing environmental setting of the three distinct areas are described below.

Grass Valley Sphere of Influence

Sites 1 through 9 are located adjacent to the northeastern boundary of the City of Grass Valley, within the City of Grass Valley Sphere of Influence. Aesthetic values associated with the City include trees, various other natural amenities, views, architectural features and the historical look and feel of the downtown area. Grass Valley and vicinity have a wide variety of landscapes and scenic resources which provide passive recreational opportunities for

residents and visitors alike. Chief among these scenic resources are the views available from many roadways to surrounding open areas as well as to vistas of the foothills and mountains. High on the list of aesthetic priorities are the entryways to and highway corridors through town. The 1972 Grass Valley General Plan established SR-20 and State Route 49 (SR-49) as scenic highways, and their routes near and through Grass Valley were designated scenic corridors.

Roadways in the areas near Sites 1 through 9 include McCourtney Road, La Barr Meadows Road, SR-49 (Site 2 only), McKnight Way and Brunswick Road. The sites are generally visible from nearby roadways as well as some surrounding areas.

Penn Valley

The four sites, Sites 10 through 13, comprising the proposed project in the Penn Valley area are located within the western portion of unincorporated Nevada County. This area is characterized by its abundance of native trees, perennial grasses and pasture lands. Sites 10, 11, 12 and 13 are relatively flat with elevations ranging from 1,380 to 1,400 feet above mean sea level (msl) and are generally visible from nearby roadways as well as some surrounding areas. Roadways in the area include Penn Valley Drive, Broken Oak Court, and SR-20.

Lake of the Pines

Lake of the Pines is located in the southeastern portion of unincorporated Nevada County. Lake of the Pines is a gated residential community surrounding a lake and several smaller ponds, as well as Ragsdale Creek. The area is characterized by native trees and vegetation, consisting of a large single-family residential development complete with a private golf course. Roadways in the area include SR-49 (Site 14 only), Higgins Road, Combie Road, and Armstrong Road. Site 14 ranges from approximately 1,440 to 1,540 feet above msl; Sites 15 and 16 range from approximately 1,440 to 1,580 feet above msl; Site 17 is relatively flat with elevations ranging from approximately 1,440 to 1,480 feet above msl; and, Site 18 ranges from approximately 1,570 to 1,650 feet above msl. All sites are generally visible from nearby roadways as well as some surrounding areas.

SCENIC RESOURCES

Scenic resources include open spaces, hillsides, valleys, ridgelines, forested views and notable buildings. Most of the proposed project sites are generally flat, containing open grasslands and forested areas. The Nevada County General Plan and the City of Grass Valley 2020 General Plan identify the aesthetic importance of natural and architectural features to residents and their quality of life. Therefore, the proposed project sites are considered visually important resources.

SR-20, SR-49 and SR-174 all traverse the County of Nevada and the City of Grass Valley. Within the City of Grass Valley Sphere of Influence, SR-49 is located just west of Site 2. Within the jurisdiction of Nevada County, SR-20 is located adjacent to and north of Site 13 while SR-49 is located to the east of Site 14. The State scenic highways in the County (designated by the State Department of Transportation) are also an important scenic program within Nevada County. SR-49 is a County designated scenic corridor, and SR-20, SR-49 and SR-174 have been determined as being “Eligible for Listing” as an “Officially Designated Route” in the California Scenic Highway System. In order to protect the scenic resources associated with the SR-49 corridor and SR-174, the County has established a Scenic Corridor Combining District for areas along the highway. Within the Lake of the

Pines area, Sites 14 through 17 are located within the Scenic Corridor Combining District. However, none of the proposed project sites within the City of Grass Valley Sphere of Influence or Penn Valley are within the Scenic Corridor Combining District. Views afforded from these roadways to the project sites are noted above.

VISUAL SETTING AND CHARACTER

The proposed project areas are situated within generally undeveloped, semi-rural and rural areas located in the western portion of Nevada County. The majority of the proposed project sites consist of undeveloped land uses, with only a few sites containing existing residential structures. Vacant land includes open grassland, shrubs and forested areas. The surrounding community areas consist of the following:

- Site 1: Commercial and vacant land uses to the north and east; residential uses to the south; commercial and rural residential uses to the west.
- Site 2: Commercial and residential uses to the north; vacant land uses to the east; semi-rural residential to the south; commercial land uses to the west across SR-49.
- Site 3 through Site 9: Residential uses to the north, south, and east; commercial and residential uses to the west; Nevada County Air Park approximately one-half mile to the east.
- Site 10 and Site 11: Commercial uses to the east and west; Site 13 and residential uses to the north/northeast; residential uses to the south.
- Site 12: Residential uses surround the property in all directions.
- Site 13: SR-20 to the north; Sites 10 and 11 to the south; vacant land to the west; residential uses to the east.
- Site 14: Residential uses to the north and south; SR-49 and the Cross Roads Church to the west; industrial uses to the east.
- Site 15 and Site 16: Vacant forested land to the north; residential uses to the south and east; commercial uses to the west.
- Site 17: Commercial uses to the north; residential use to the south; vacant land to the east and west.
- Site 18: Golf course to the north and west; residential and vacant land to the south; residential uses to the west.

Onsite Views

Grass Valley Sphere of Influence

Sites 1 through 9 are mainly forested/undeveloped land, although two single onsite structures are present on Sites 5 and 8, respectively. Views are afforded by those traveling along McCourtney Road (Site 1), Highway 49 and La Barr Meadows Road (Site 2) and Bubbling Wells Road and Brunswick Road (Sites 3 through 8). Other viewers may include uses situated on hillsides and ridgelines facing the sites, as well as scattered offsite commercial, industrial and residential uses to the north, east and west. These views include the onsite rural vacant/forested land and grassland.

Penn Valley

The majority of Sites 10 through 12 currently consist of grassland/undeveloped land with Site 12 consisting of some forested land as well. Views are afforded by those traveling along Penn Valley Drive (Sites 10 and 11), Broken Oak Court and Pheasant Lane (Site 12) and Highway 20 (Site 13). Other viewers may include uses situated on hillsides and ridgelines facing the project site, as well as scattered offsite commercial and residential uses surrounding all sides. These views include the onsite rural vacant/forested land, open grassland, creek adjacent to Site 10, and percolation ponds associated with the adjacent mobile home park.

Lake of the Pines

Sites 14 through 18, located in the Lake of the Pines area, are currently forested/undeveloped land. Views are afforded by those traveling along Highway 49 and Cameo Drive (Site 14), Higgins Road and Woodridge Drive (Sites 15 and 16), Rosewood Road (Site 17) and Combie Road (Sites 17 and 18). Other viewers may include uses situated on hillsides and ridgelines facing the project site, as well as scattered offsite commercial and residential uses. These views include the onsite rural vacant/forested land and open grassland.

Offsite Views

Grass Valley Sphere of Influence

The proposed project Sites 1 through 9 located within the Grass Valley Sphere of Influence are located in a predominantly rural setting, adjacent to and along the outskirts of the City. The majority of views to the project site from surrounding areas are currently screened by dense vegetation with some views including large areas of grassland. Views are also afforded by adjacent residential, commercial and industrial land uses and those traveling along surrounding roadways. The following is a description of views toward the proposed project Sites 1 through 9 from surrounding land uses:

Site 1

- Northward Views. Views northward from offsite commercial uses to the south include open grassland and forested land.
- Eastward Views. Views eastward from offsite residential uses and along McCourtney Road include foreground views toward open grassland and shrubs and middleground and background views toward dense trees.
- Southward Views. Views southward from commercial uses to the north include McCourtney Road, adjacent commercial structures and forested land.
- Westward Views. Commercial uses to the east of the project site do not have westward views due to dense trees.

Site 2

- Northward Views. Views northward from offsite commercial and rural residents to the south include forested land.
- Eastward Views. Views eastward from offsite commercial and institutional uses include SR-49 and foreground views toward open grassland and forested land.

- Southward Views. Views southward from commercial uses to the north are not afforded due to dense trees.
- Westward Views. The nearest uses to the east of the project site are located approximately one-half mile away and do not have westward views due to dense trees.

Sites 3 through 9

- Northward Views. Views northward from offsite vacant land, rural residential and commercial uses, and Idaho Maryland Road to the south include open grassland, shrubs, and forested land.
- Eastward Views. Views eastward from offsite residential and institutional uses along Sutton Way include foreground views toward dense trees.
- Southward Views. Views southward from commercial and residential uses to the north include foreground views toward dense trees.
- Westward Views. Rural residential uses to the east of the project site do not have westward views due to dense trees. Views westward from the Nevada County Airport include dense trees and vegetation.

Penn Valley

The proposed project Sites 10 through 13 are located in Penn Valley. The majority of views to the project site from surrounding areas are open, consisting of grasslands with some dense forested areas separating Sites 10 and 11 from Site 13. Adjacent residential, commercial and recreational land uses and those traveling along SR-20, Penn Valley Road, and Broken Oak Court also have clear views to the site. The following is a description of views toward the proposed project Sites 10 through 13 from surrounding land uses:

Sites 10 and 11

- Northward Views. Views northward from offsite commercial and residential uses and Penn Valley Drive to the south include foreground views toward open grassland, trees, shrubs and commercial residential uses adjacent to these sites.
- Eastward Views. Views eastward from offsite residential and commercial uses and along Penn Valley Drive include foreground, middleground, and background views toward open grassland, shrubs, and trees.
- Southward Views. Views southward from commercial uses across SR-20 to the north are not afforded due to the separation of the site by SR-20, Site 13, and dense trees.
- Westward Views. Views from commercial and residential uses to the east of the project site include grassland, shrubs and patches of larger trees.

Site 12

- Northward Views. Views northward from offsite residents to the south include open grassland with some trees and adjacent residential uses.
- Eastward Views. Views eastward from offsite residential uses include open grassland with some trees and adjacent residential uses.
- Southward Views. Views southward from residential uses to the north include open grassland with some trees and adjacent residential uses.

- Westward Views. Views westward from residential uses to the east include open grassland with some trees and adjacent residential uses.

Site 13

- Northward Views. Views northward from offsite commercial, residential, and vacant land uses to the south are not afforded due to the dense forested land associated with the creek separating the site.
- Eastward Views. Views eastward from offsite residential, commercial and recreational uses and along SR-20 include foreground middleground and background views toward open grassland, shrubs, and trees.
- Southward Views. Views southward from vacant land and commercial uses to the north include foreground and middleground views toward open grassland and trees and background views toward dense trees. Views from Sites 10 and 11 are not afforded due to the dense trees associated with the creek separating the sites.
- Westward Views. Westward views from commercial and residential uses to the east of are largely obstructed by a linear grouping of trees along the eastern boundary of the site.

Lake of the Pines

The project sites located in the Lake of the Pines region of the County of Nevada are located in a predominantly rural/semi-rural setting, along the outskirts of the Lake of the Pines gated community. The majority of views to the project site from surrounding areas are through open grassland or screened by dense vegetation. Adjacent residential, commercial and industrial land uses and those traveling along surrounding roadways have views to the site. The following is a description of views toward the proposed project Sites 14 through 18 from surrounding land uses:

Site 14

- Northward Views. Views northward from offsite commercial uses to the south include forested land.
- Eastward Views. Views eastward from offsite residential and commercial uses and along SR-49 include foreground, middleground, and background views toward dense trees.
- Southward Views. Views southward from rural residential uses to the north are not afforded due to dense trees.
- Westward Views. Commercial, residential and industrial uses to the east of the project site do not have westward views due to dense trees.

Site 15 and 16

- Northward Views. Views northward from offsite rural residents to the south include forested land.
- Eastward Views. Views eastward from offsite vacant land and commercial uses include SR-49, include offsite foreground views toward open grassland and shrubs and project site middleground and background views toward dense trees.

- Southward Views. Views southward from residential uses to the north are not afforded due to dense trees. Views southeast from commercial uses to the north west include open grass land and project site dense forested areas.
- Westward Views. Views from residential uses to the east of the project site include dense trees.

Site 17

- Northward Views. Views northward from offsite rural residents to the south include forested land.
- Eastward Views. Views eastward from offsite residential uses to the west are not afforded due to dense forested areas.
- Southward Views. Views southward from commercial uses to the north include Combie Road and dense trees onsite.
- Westward Views. Views westward from offsite residential uses to the east do not have westward views due to dense trees.

Site 18

- Northward Views. Views northward from offsite rural residents to the south include forested land and Combie Road.
- Eastward Views. Views eastward from offsite residential and commercial uses, and Combie Road are not afforded due to the dense forest surrounding the site.
- Southward Views. Views southward from residential and recreational uses to the north include foreground views of onsite dense forested areas.
- Westward Views. Views from recreational uses associated with the adjacent golf Course to the east of the project site include dense trees.

Light and Glare

There are two typical types of light intrusion. First, light emanates from the interior of structures and passes out through windows. Second, light projects from exterior sources, such as street lighting, security lighting and landscape lighting. “Light spill” is typically defined as the presence of unwanted and/or misdirected light on properties adjacent to the property being illuminated. Light introduction can be a nuisance to adjacent residential areas and diminish the view of the clear night sky. In addition, if the light is uncontrolled, it can disturb wildlife in natural habitat areas.

Perceived glare is the unwanted and potentially objectionable sensation as observed by a person when looking directly into the light source of a luminaire. Glare also results from sunlight reflection off flat building surfaces, with glass typically contributing the highest degree of reflectivity.

Currently, there are no significant light or glare sources within the project sites, as the project sites currently consist of primarily undeveloped land. Minimal light and glare do emanate from the security lighting associated with the surrounding existing commercial and residential uses. These surrounding uses do not create substantial or unusual amounts of light or glare onto the project site. The primary sources of nighttime lighting are from vehicle headlights on area roadways, such as SR-20, SR-49, Brunswick Road, McCourtney Road,

Penn Valley Drive and Combie Road. Additionally, dense trees on and surrounding the project site limit the amount of visible light on the proposed project sites.

4.3.2 REGULATORY SETTING

LOCAL FRAMEWORK

Nevada County General Plan

The Nevada County General Plan identifies the County as an area of extraordinary scenic quality. Scenic resources in the County include a wide variety of landscapes, scenic views/vistas and visual resources. Scenic views include those from roadways, surrounding open areas, as well as scenic vistas of lakes, rivers, valleys, the foothills and mountains and various other natural amenities.

The Open Space and Aesthetics Elements of the Nevada County General Plan include several goals, objectives and policies with respect to aesthetics, as identified below.

Open Space Element

- Goal 6.1 Encourage that land use patterns and site development reflect open space values.
- Objective 6.2 Implement development standards that incorporate open space values.

Aesthetics Element

- Goal 18.1 Promote and provide for aesthetic design in new development which reflects existing character.
- Objective 18.1 Develop appropriate community design guidelines to ensure aesthetic design in new development.
- Goal 18.2 Protect and preserve important scenic resources.
- Objective 18.2 Develop standards to protect scenic resources and viewsheds.
- Policy 18.6 Discretionary development in Rural Regions and in Community Regions near the Community Boundary shall, wherever possible, preserve natural landmarks and avoid ridge-line placement of structures.
- Policy 18.7A The County shall promote a compact development pattern to protect open space buffers between communities and to maintain a geographic distinction between communities.
- Objective 18.3 Promote the conservation of scenic roads and highways.
- Policy 18.8 The County shall amend the “SC” Scenic Corridor Combining District Regulations to require design review of all proposed development within the district.
- Policy 18.8A The County will designate scenic corridors along the following routes: Interstate 80 and Highways 49, 89, 174, and 267 for their entire length in the County; all of Highway 20, Donner Pass Road (Old Highway 40), from the Interstate 80 intersection at Soda Springs to the town limits of Truckee. These corridors

should be placed within the SC "Scenic Corridor" Combining District, with boundaries based upon adopted studies.

Nevada County Land Use Development Code

The County recognizes the importance of trees to the character of the community as well as the role that trees have in advancing the public health, safety and welfare of its residents. Therefore, Section L-II 4.3.15 Trees of the Nevada County Land Use Development Code contains standards for tree preservation and protection. Procedures are identified for the removal of trees, including biological inventories, permits and approvals, and mitigation that may be necessary following tree removal. Also, Section L-II 4.2.8 Lighting addresses outdoor lighting within the County and specifies requirements for lighting in new development, street lights, street light placement and design standards. Section L-II 5.3 Design Review provides the procedures and standards by which new development can be reviewed for compatibility with surrounding development, natural resources and/or historic features within the project area. Section L-II 4.3.16 Visually Important Ridgelines and Viewsheds also sets standards to protect the natural appearance and aesthetic quality of visually prominent ridgelines and large-scale viewsheds.

Western Nevada County Design Guidelines

The Western Nevada County Design Guidelines are applicable to all Development Permits and Use Permits for all public, commercial, industrial and multi-family projects in Western Nevada County. All of the proposed project sites are located within the Western Nevada County planning boundary and would therefore be subject to the guidelines. The guidelines encourage the highest level of design quality while at the same time provide flexibility necessary to promote economic viability. The guidelines seek to:

- Protect and preserve the scenic resources of Nevada County;
- Maintain the rural, small-town character of the County reflecting the distinctions between Rural Regions and Community Regions;
- Maintain community identity by promoting compact, mixed-use development;
- Establish a consistent set of criteria that allows flexibility for demonstrating compliance with the purpose of these guidelines;
- Complement the rich historic fabric of the County.

The Western Nevada County Design Guidelines discuss general development guidelines for land use and site planning, pedestrian and alternative transportation modes, circulation, parking, lighting, street furniture, signage, landscaping, architectural design and energy conservation. The objective of the high-density residential design guidelines is to “incorporate a wide range of high density housing types to provide housing choices and opportunities within Rural Centers or Community Regions.”

Some examples of guidelines for high-density residential developments include:

- Orient doorways toward the street
- Conceal parking behind the building and provide alley entrances where possible
- Minimize curb cuts for entrances
- Incorporate ancillary units above garages where appropriate

- Minimize front set backs to help define street as an outdoor room

Regional Housing Need (RH) Combining District

When required by state law, sites within a Regional Housing Need (RH) Combining District shall be developed by right, in that the use and density shall not require a Use Permit, Planned Unit Development Plan or other discretionary action for the use of that site. However, all development proposals shall undergo a Design Review process and public hearing at the Planning Commission limited to design issues only. No discretionary permit is necessary for the density or use of the site.

Higgins Area Plan Design Guidelines

The Higgins Area Plan establishes the goals, policies and implementation measures that will guide development in the portion of southwest Nevada County known as the Higgins Corner – Lake of the Pines Village Center (“Higgins Area”). Sites 14-17 fall within the location of the Higgins Area Plan planning boundary, and would therefore be subject to the design guidelines outlined in the plan. The plan supplements the County’s Zoning Ordinance, including the Comprehensive Site Development Standards contained in Chapter II of the Nevada County Land Use and Development Code.

The Higgins Area Plan design policies provide direction for a positive, cohesive community image while maintaining the quality of the physical environment of the Higgins Area. Chapter three of the area plan discusses the design goals, policies and guidelines that are applicable to all discretionary and ministerial project permits and provide direction for new development. The design policies include site preparation and treatment, site design, lighting, signage, fire prevention, sewage, drainage, circulation and setbacks. The design guidelines include preserving scenic resources, enhancing and preserving Ragsdale Creek, structural design, lighting, signage, public place and pedestrian amenities and landscaping.

Penn Valley Village Center Area Plan Design Guidelines

The purpose of the Penn Valley Village Center Area Plan is to develop design guidelines that provide consistent design review criteria that encourages development that is compatible with the rural character of the Penn Valley Village Center; to identify public facilities and services that will serve new development; to identify and encourage natural resources; to advocate the development of paths and trails; and, to sustain the rural environment and encourage patronage of village center business. All sites located in the Penn Valley area (Sites 10-13) fall within the Penn Valley Village Center planning boundary, and would therefore be subject to the design guidelines outlined in the plan. The Penn Valley Village Center Area Plan Guidelines shall be considered in the review of all discretionary and ministerial permit projects, and administrative permits that require design review within the boundaries of the Penn Valley Village Center as mapped on the 1995 Nevada County General Plan land use maps.

Chapter three of the Penn Valley Area Plan discusses the design guidelines for development within the Village Center. The design guidelines chapter includes sections on site planning, building design, signage, multi-family residential, lighting, landscape design and circulation and pedestrian trails. Sites within the Penn Valley Village Center will be required to adhere to the design guidelines outlined in the Area Plan.

City of Grass Valley 2020 General Plan

The 2020 General Plan identifies the City and surrounding areas as having a wide variety of landscapes, scenic views/vistas and visual resources. Scenic views include those from roadways surrounding open areas, as well as scenic vistas of the foothills and mountains. City-valued scenic resources include trees, open space, valleys, ridgelines, hillsides and various other natural amenities. The 2020 General Plan specifies that open space is also an aesthetically valued resource in the City which can be incorporated into and complement development.

The Conservation/Open Space and Community Design Elements of the 2020 General Plan include several goals, objectives and policies with respect to aesthetics, as identified below.

Goal 1-COSG	Provide a balance between development and the natural environment, protecting and properly utilizing Grass Valley's sensitive environmental areas/features, natural resources, and open space lands
Objective 2-COSO	Multi-purpose open space lands, accommodating the needs and requirements of open space/conservation, habitat, recreation, and aesthetics.
Goal 4-COSG	Protect and enhance town entryways, visual corridors, and important viewsheds including ridgelines.
Objective 12-COSO	Identification of specific aesthetic considerations important to the protection/enhancement of particular corridors and views.
Goal 1-CDG	Preserve and enhance the existing community.
Goal 2-CDG	Conserve community attributes that provide a sense of the natural setting and continuity with the past.
Goal 3-CDG	Assure that new development is sensitive to and strengthens the existing built and natural environment.
Objective 3-CDO	Recognition and protection of major views in the planning area, with particular attention to notable buildings, open space, hillsides, valleys, ridgelines, and forested views.
Objective 12-CDO	Creation of new development areas that are unique and interesting.
Objective 13-CDO	High quality streetscape and building design in all new development.
Policy 3-COSP	Encourage clustering, density averaging, and other techniques in larger-scale new developments, as means of preserving open space and natural systems.
Policy 5-COSP	Carefully regulate development on steep slopes.
Policy 6-COSP	Prevent excessive alteration of the natural topography.
Policy 12-COSP	Enhance the City's tree ordinance addressing tree maintenance and protection both within new developments and elsewhere in the City.

City of Grass Valley Municipal Code

The City recognizes the importance of trees to the character of the community as well as the role that trees have in advancing the public health, safety and welfare of its residents. Therefore, Chapter 12.36 of the City's Municipal Code contains standards for tree preservation and protection. Procedures are identified for the removal of trees, including permits and approvals, and mitigation that may be necessary following tree removal. Also, Chapter 12.20 addresses street lights within the City and specifies requirements for street lights in new development, street light placement and design standards. The City's Development Review procedures are set forth in Section 17.72.030 of the Development Code. The Development Review Committee serves in an advisory capacity to the Planning Commission for larger projects and provides comments and direction on a variety of design issues including site planning, aesthetics, architecture and circulation and landscaping, among others. The primary purpose of the Design Review Committee is to ensure that proposed projects maintain the aesthetic quality of the City.

4.3.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant aesthetic impact 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
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

The evaluation of aesthetic impacts is a subjective exercise because of widely varying personal perceptions. Nevertheless, replacement of undeveloped land with land uses anticipated by the proposed project would permanently alter the appearance of the project area.

AREAS OF NO PROJECT IMPACT

The following impact is either not applicable to the project or not reasonably foreseeable:

- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway

California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. SR-20, SR-49 and SR-174 all traverse the County of Nevada and the City of Grass Valley. Within the City of Grass Valley Sphere of Influence, SR-49 is located just west from Site 2. Within Nevada County, SR-20 is located adjacent to and north of Site 13, and SR-49 is located to the east of Site 14. Although these County scenic corridors have been determined "Eligible for Listing" as an "Officially Designated State Scenic Highway" in the California Scenic Highway System, these corridors are not "officially designated" as State Scenic Highways. Also, the portion of the proposed

project nearest to an eligible scenic highway would be Sites 7 and 8 which are approximately 15 miles away. Additionally, intervening structures and dense trees and vegetation shield any potential views to the project site from these eligible scenic highways. Also, views to the nearby Tahoe National Forest and Plumas National Forest are not afforded from highways in the vicinity of the project site due to distance, as they are located approximately six miles east of SR-49 and 11 miles north of SR-174, respectively.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Short-Term (Construction)

4.3-1 GRADING AND CONSTRUCTION ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT WOULD ALTER THE VISUAL APPEARANCE OF THE PROJECT AREA.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Implementation of the proposed project would facilitate future development that would have short-term aesthetic impacts as a result of construction debris and construction-related activities. Future traffic from construction equipment would also adversely impact views along local roadways in the vicinity of the project site. Surrounding rural residents, commercial, industrial and institutional uses would have views of construction activities. However, these views would be limited as the project would minimize development of the sensitive portions of the project area (i.e., forested land, open space and riparian corridors). The timing of the construction will vary by project site depending on market conditions and the type of development ultimately selected by the property owner. During construction, trucks would be required for the delivery of heavy equipment and construction materials. As with onsite activities, the visual aspect of trucks loaded with debris would be interesting to some viewers and unsightly to others.

Scenic Vistas

Scenic vistas are defined as expansive views of highly valued landscapes from publicly accessible viewpoints and include views of natural features such as topography, watercourses, rock outcroppings, and natural vegetation, and man-made scenic structures. The proposed project would be located within some areas that are heavily vegetated with native trees, shrubs and grasses. Both the Nevada County General Plan and the City of Grass Valley 2020 General Plan identify natural resources such as these as important scenic resources. Currently, views to onsite natural features are afforded from nearby roadways and surrounding uses. Additionally, sites within the “SC” Scenic Corridor Combining District (Site 14) will have the potential to impact scenic vistas which are adjacent to highway and roads that have been identified as having high scenic quality and require protection for the benefit of residents and visitors.

Upon construction of future projects facilitated by implementation of the proposed project, these views may be altered. However, the majority of expansive views to the project area, including ridgelines and hillsides, would be preserved. To the maximum extent possible, existing primary vegetation and open space (which include areas of densely forested land) would remain and would provide a buffer between viewers and proposed development.

As buildout of the proposed project would occur, surrounding uses would have long duration, direct views to construction activities at the various project sites, resulting in a significant impact. Implementation of Mitigation Measure 4.3-1 would require construction equipment staging areas to use appropriate screening (i.e., temporary fencing with opaque material) to buffer views of construction equipment and material, when feasible. Specific staging locations would be indicated on a project-by-project basis. Mitigation Measure 4.3-3 would require design review by the Planning Commission to ensure a development proposal is consistent with the applicable design guidelines for each general plan and area plan in order to minimize the impact of development to scenic vistas. With implementation of Mitigation Measures 4.3-1 and 4.3-3, impacts would be reduced to a less than significant level.

Degradation of Existing Character/Quality

Construction activities would be visible from adjacent rural residential, commercial, industrial and institutional uses in the project vicinity. Grading plans would be submitted to the County or City for review and approval prior to the commencement of site disturbing activities and would be subject to the County's or City's Development Code. Also, all future development would be subject to the County's or City's Development Review process, which would include evaluation of site development and grading plans. All grading and earthwork would be conducted in accordance with approved construction grading permits issued by the County or City Engineer. Additionally, as stated above, with implementation of Mitigation Measure 4.3-1, equipment staging areas would provide appropriate screening (i.e., temporary fencing with opaque material).

Views to haul trucks (traveling to and from the project site from offsite locations) along the highway and local roadways may result in short-term visual impacts to adjacent residents. In accordance with County and City grading permit procedures, hauling plans, prepared on a project-by-project basis, would be subject to approval by the County or City Engineer. Impacts in this regard would be reduced to a less than significant level upon compliance with the County's or City's grading permit process.

Light and Glare

Short-term light and glare impacts associated with construction activities facilitated by implementation of the proposed project would likely be limited to nighttime lighting (for security purposes) in the evening/nighttime hours. In accordance with Chapter 8 (Noise) of the City of Grass Valley Municipal Code, construction activities are permitted only between the hours of 7:00 AM and 7:00 PM, and not permitted on Sundays or holidays. Therefore, future construction activities may require minimal hours of evening/nighttime construction lighting, which would cease by 7:00 PM. The County of Nevada Zoning Ordinance, Section L-II 4.1.7 Noise does not provide specific construction noise regulations and Section D.8 exempts construction activities from established noise standards for other land uses. However, it is anticipated that nighttime construction activities within the County's jurisdiction would be minimal. In the event that project construction lighting becomes a nuisance to surrounding uses, the County and City would ensure construction-related lighting would be oriented away from adjacent residential areas, if necessary, and consist of the minimal wattage necessary to provide safety at the construction site. Construction-related lighting impacts would be short-term and would cease generally by 7:00 PM. Therefore, short-term light and glare impacts associated with future construction activities would be less than significant.

Mitigation Measure

The following mitigation measure applies to all sites:

- 4.3-1 Construction equipment staging areas shall use appropriate screening (i.e., temporary fencing with opaque material) to buffer views of construction equipment and material, when feasible. Staging locations shall be approved by the County or City Engineer prior to the commencement of construction of each phase of the project.

Level of Significance After Mitigation: Less Than Significant Impact.

Scenic Vistas

4.3-2 IMPLEMENTATION OF THE PROPOSED PROJECT MAY HAVE AN ADVERSE EFFECT ON A SCENIC VISTA.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

Scenic vistas are defined as expansive views of highly valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as topography, watercourses, rock outcroppings and natural vegetation, as well as man-made scenic structures. The proposed project sites are located on generally undeveloped portions of the County and City, characterized by natural features such as forested land, creeks and open grassland. Surrounding rural residential, commercial, industrial and institutional uses may have views of scenic vistas toward the project sites. Upon construction of the proposed project, these views may be altered.

Currently, excluding Sites 1, 10, 11, and 12, the sites comprising the proposed project are heavily vegetated with native trees, shrubs, and grasses. The existing onsite heavy vegetation, as well as vegetation in the surrounding areas, significantly limits public views to scenic resources. The proposed project would require the removal and/or thinning of vegetation within portions of the project sites. This tree thinning/removal may alter existing views to onsite natural features; however, these features would be conserved to the maximum extent possible. The project would be required to adhere to the County's Land Use Development Code Section L-II 4.13.15 Trees or the City's Municipal Code Chapter 12.36 regarding tree preservation and protection.

Project planting plans would be developed using a landscape plant matrix that devises different plant species and evaluates the appropriateness of each species for each of the development sites. The landscape plant matrix would list plants appropriate for areas adjacent to creeks, waterways and other natural areas. Therefore, the existing natural environment within the proposed project areas would be maintained to the maximum extent possible with implementation of specific landscape provisions for each of the proposed project sites as they are developed.

Publicly accessible views toward the proposed project areas and onsite natural features would be altered by the development of the project. However, the majority of proposed development sites are located in areas where the surrounding natural environment has been disturbed from the construction of existing commercial, residential, industrial and institutional developments. Therefore, many views to onsite natural features are obstructed due to inclusion of surrounding land uses within the viewshed. As such, due to the existing developments surrounding the proposed project sites and with implementation of landscape standards and compliance with the Nevada County General Plan, Nevada County Land Use Development Code, City of Grass Valley General Plan and City of Grass Valley Municipal

Code (see Section 4.3.2 [Regulatory Setting]), as applicable, visual impacts resulting from removed mature vegetation and trees would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance After Mitigation: Less Than Significant Impact.

Degradation of Character/Quality

4.3-3 PROJECT IMPLEMENTATION MAY PERMANENTLY DEGRADE THE EXISTING VISUAL CHARACTER/ QUALITY OF THE PROJECT SITE.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

The visual analysis of any project must consider the existing visual character and quality of the area. Another factor to consider in the analysis would be the existing visual sensitivity in the project area, which is defined by the available public views of the project, the number of viewers, and the duration of those views. Therefore, a project located on a site that has both high visual quality and high visual sensitivity would have the most significant visual impact.

The landscape in the project area is defined by the existing forested/open grassland features and the County's overall rural characteristic. The proposed project sites range from areas of generally flat grasslands to gently sloping forested. Most sites are currently vacant land. Many of the project sites are considered to have high visual quality due to their undeveloped and rural character and the presence of scenic resources, such as dense trees, open grasslands and creek features. The surrounding area is generally rural in nature, with more dense development located adjacent to the sites within the City of Grass Valley Sphere of Influence. Surrounding structures are one to two stories in height and vary in age and condition.

Implementation of the proposed project would facilitate development that would permanently alter the nature and appearance of the project site. Although design plans would be drafted as each site is developed, it can be assumed that project structures would be at a minimum partially visible from surrounding residents, as well as surrounding commercial, industrial and institutional uses and those traveling along local roadways. These viewers would have moderate to long duration views of the project. However, viewsheds in these areas currently include views of those surrounding developments. As such, concentrating new higher density residential development adjacent to existing commercial, residential, industrial and institutional uses would result in development that is better suited than compared to the same development placed in rural areas where existing residential development is sparsely located and the natural environment, including forested and open grassland habitats, is pristine and minimally disturbed.

Some views from surrounding uses would be buffered by retaining existing onsite dense trees and in some cases newly planted trees and vegetation. However, should these projects propose to remove existing trees currently buffering these views, these projects may be visible with implementation of the proposed project. Therefore, as development occurs throughout the project area, residents and visitors in the area would notice the visual effects of urbanization. Potential changes that degrade the character or quality of the existing site would be considered significant.

To address the visual and aesthetics issues associated with new development, each development proposal associated with the proposed project must be designed consistent with the applicable policies established in the Nevada County General Plan, the Western Nevada County Development Guidelines, the City of Grass Valley 2020 General Plan and Community Design Guidelines, the Higgins Area Plan Design Guidelines, the Penn Valley Area Plan Design Guidelines and the RH Combining District Design Review process. The design guidelines in each plan have been adopted for the specific purpose of reviewing development proposals to ensure that proposed development projects are designed in ways that are in harmony and compatible with the existing landscape and surrounding development.

The guidelines provide design considerations that project developers are encouraged to incorporate in the project planning process. Examples of design considerations from the guidelines include, but are not limited to, the following:

- Site design and layout;
- Building materials (including colors);
- Environmentally sensitive design;
- Landscaping;
- Common areas;
- Parking lot design and placement; and,
- Lighting.

All future developments associated with the proposed project should be designed according to specific design principles and standards that respect the goals, objectives and policies of the Nevada County General Plan (all sites), the City of Grass Valley 2020 General Plan (Sites 1-9 if annexed), the Western Nevada County Development Guidelines (all sites), the Higgins Area Plan Design Guidelines (Sites 14-17), the Penn Valley Area Plan Design Guidelines (Sites 10-13) and the RH Combining District (all sites) for the design review process. However, since the enforcement of such design principles and standards would require subsequent approval, impacts to the existing visual character of the sites are considered potentially significant and mitigation would be required.

In compliance with Mitigation Measure 4.3-3, projects within the unincorporated area of Nevada County and also those that would be annexed to the City would require design review by the Planning Commission to ensure a development proposal is consistent with the applicable design guidelines for each general plan and area plan. Projects within the County of Nevada that would not be annexed into the City of Grass Valley would require approval of the Nevada County Planning Commission. Similarly, projects within the City of Grass Valley SOI would be reviewed by the City's Design Review Committee and Planning Commission.

As previously mentioned, proposed project development would be buffered by techniques, including landscaping and open space preservation, and would require compliance with the applicable development codes and design review requirements enforced by the Design Review Committee and Planning Commission. These techniques would preserve the existing rural and semi-rural character of the surrounding areas by minimizing the developed appearance of the project sites. With assurance that these design measures are incorporated into the project design through formal design review, potential impacts are considered less than significant with mitigation.

Mitigation Measures:

The following mitigation measure pertains to all sites:

- 4.3-3 Prior to approval of a development proposal for a property within the RH Combining District (or as part of the annexation request for Sites 1-9), the project shall require design review approval by the Planning Commission to ensure landscaping, lighting, parking, layout and building design are compatible with the surrounding development, natural resources and/or historic features within the project area. However, since the density of development is determined at the time the site is rezoned to add the RH Combining District, design review will not include a review of the density of the project. The density shall be based on the state-mandated 16 units minimum per acre but will allow for a maximum of 20 units per acre on sites within the Grass Valley Sphere of Influence.

All future developments associated with the proposed project would be required to follow the specific design principles and standards that respect the goals, objectives and policies of the Nevada County General Plan and the City of Grass Valley 2020 General Plan, as well as any area plan design guidelines that each site may be located within. Such design guidelines will ensure each development is providing a balance between development and the natural environment.

Level of Significance After Mitigation: Less Than Significant Impact.

Light and Glare

4.3-4 THE PROPOSED PROJECT MAY GENERATE ADDITIONAL SOURCES OF LIGHT AND GLARE BEYOND EXISTING CONDITIONS FROM URBAN LIGHTING AND VEHICULAR TRAFFIC.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Implementation of the proposed project would facilitate development that would convert the project sites from undeveloped land in a rural and semi-rural setting to a developed landscape, resulting in new sources of light and glare. Development of the proposed project areas may expose offsite residents to new sources of lighting. If this lighting is not adequately directed toward its intended use, it may cause spill-over and glare that would present a nuisance to surrounding residents. Additionally, excessive light spill-over may act as a deterrent to wildlife in sensitive habitat areas during evening hours and may present a nuisance or potential safety hazard by distracting motorists on nearby roadways.

New sources of lighting would include street lighting, security lighting, vehicle headlights and lighting that would emanate from the interior of proposed residential uses. As part of the Development Review process (and under Section L-II 4.2.8, Lighting, of the Nevada Land Use and Development Code and Section 17.30.060, Outdoor Lighting, of the City of Grass Valley Development Code), future project developers would be required to prepare lighting plans on a project-by-project basis to ensure that the exterior lighting does not spill over onto the adjacent uses. All exterior light fixtures would be required to be shielded or directed

away from adjoining uses, pursuant to all applicable lighting standards and requirements of the applicable codes.

Glare impacts are typically related to the use of modern, highly reflective surfaces such as gold or silver, glass, acrylic and broad, flat surfaces that are painted with highly reflective colors and are common in urbanized areas. As such, mirror and tinted glass materials would be prohibited with implementation of the proposed project. All potentially reflective building materials and surfaces would also be required to be painted or otherwise treated to minimize potential glare impacts (Mitigation Measure 4.3-4). All glass used on external building walls would be low-reflectivity.

Additionally, glare impacts and potentially reflective building materials would be reviewed by the Planning Commission as part of the design review process in Mitigation Measure 4.3-3. Therefore, the implementation of Mitigation Measures 4.3-3 and 4.3-4, requiring design review of future projects within the RH Combining District, proper lighting techniques and compliance with the Nevada County and City of Grass Valley applicable lighting codes would reduce project light and glare impacts to less than significant.

Mitigation Measure: Implement Mitigation Measures 4.3-3 and 4.3-4

The following mitigation measure pertains to all sites:

- 4.3-4 For all future projects in the proposed project area, all potentially reflective building materials and surfaces shall be painted or otherwise treated to minimize reflectivity, except as necessary to achieve desired green building objectives. All glass used on external building walls shall be low-reflectivity.

Level of Significance After Mitigation: Less Than Significant Impact.

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4.4 BIOLOGICAL RESOURCES

This section identifies existing biological resources within the 18 rezone sites, potential project impacts on biological resources, and mitigation measures for potential impacts. This section relies upon the analysis and findings of the *Biological Resources Inventory Report for the Housing Element Rezone Study Area, Nevada County, California*, prepared by Dudek, February 2013, which is included in Appendix C.

Dudek biologists reviewed previously prepared biological reports for some of the project sites and performed reconnaissance level field visits to each site. Field visits were conducted in May and November 2012. Previous studies reviewed included the following:

- *Wetland Delineation Report Penn Valley Oaks, Nevada County* (Heal Environmental Consulting, Inc. 2010)
- *Preliminary Biological Resources Assessment Penn Valley Oaks, Nevada County* (Heal Environmental Consulting, Inc. 2010)
- *Biological Inventory Report Penn Valley Oaks, Nevada County* (EcoSynthesis Scientific & Regulatory Services, 2003)
- *Vegetation Management Plan Clearwater Crossing and Penn Valley Oaks, Nevada County* (Heal Environmental Consulting, Inc. 2010)

Additionally, Dudek researched additional background information regarding the documented or potential occurrence of special-status species on or in the vicinity of each of the project sites from a variety of sources, including the California Natural Diversity Data Base (CNDDDB), species lists created by the U.S. Fish and Wildlife Service (USFWS) and provided by the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants for the nine U.S. Geological Survey (USGS) 7.5-minute quadrangles surrounding the sites. Habitat requirements for each species returned by these queries were considered in determining the likelihood for each species to occur on the rezone sites.

4.4.1 ENVIRONMENTAL SETTING

The 18 rezone sites are located in the western portion of Nevada County, approximately 50 miles northeast of Sacramento and about 50 miles west of Lake Tahoe (refer to Figure 3-1, *Regional Location Map*). This region of the western Sierra Nevada foothills separates the low-lying Sacramento Valley from the Sierra Nevada Mountains and is characterized by rolling forested hills and deep river canyons. The plant communities identified on the sites are described below and Table 4.4-1, *Plant Communities at Each Project Site*, identifies the type and size of each vegetation community that occurs on the project sites.

PLANT COMMUNITIES

Vegetation communities are classified according to the California Wildlife Habitat Relationships (CWHR) habitat classification scheme, which is presented in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer Jr. 1988). Vegetation communities for specific sites were also reviewed against *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and Evens 2009). Landscape scale vegetation community mapping prepared by the Northern Sierra Nevada Foothills Vegetation Project (NSNFVP) (Menke et al 2011) and the accompanying NSNFVP report were also reviewed in assigning habitat classifications for each site.

Nine vegetation communities were mapped on the 18 sites. The characteristic components of each of these communities and the sites they occur on are provided below. Habitat mapping is provided in Figure 4.4-1 through Figure 4.4-10.

Disturbed/Developed

Disturbed/Developed is not a CWHR habitat classification, but is applied to developed or significantly disturbed areas where vegetation cover is largely absent. This designation is applied to one Nevada County property. It is best described as a habitat that has severe disturbance, such as grading or other activities that removes much of the vegetation. Plant species that do occur in these areas typically occur around the edges of cleared or developed areas and are non-native, ornamental or ruderal species that are adapted to high levels of disturbance.

Site 1 is primarily a disturbed habitat. Small areas of existing development or disturbed areas are embedded within natural communities on Sites 7, 8, 9, 11, 15, 16, and 18. These areas are developed with rural single-family homes and outbuildings or storage sheds and equipment storage on Sites 7, 8, 9, and 15, wastewater utility buildings and an access road on Site 16, a concrete house foundation on Site 11, and manicured golf course on Site 18. Smaller areas of disturbance are not identified on habitat maps.

Annual Grassland

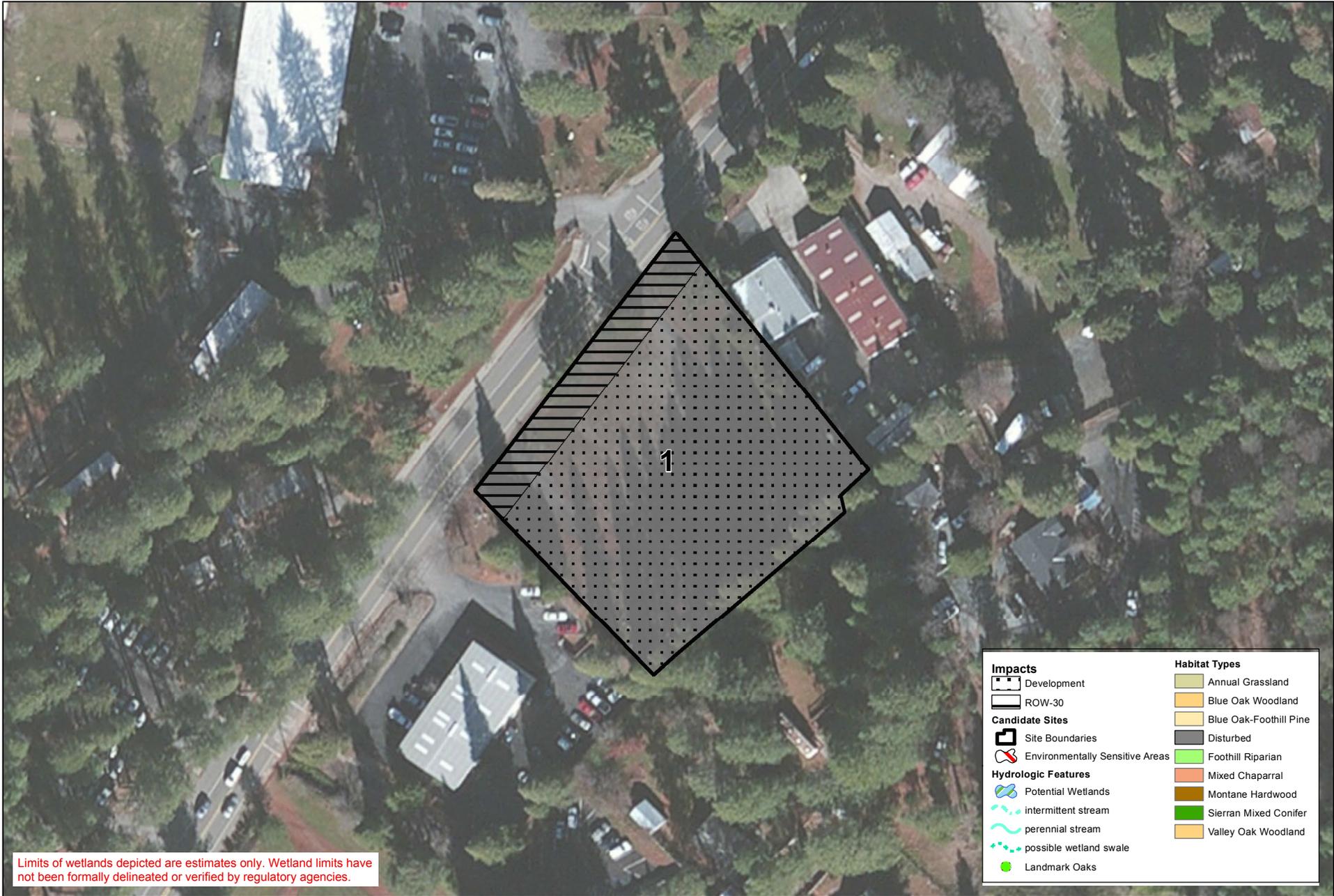
Annual grasslands are dominated by annual, non-native grasses and forbs. Common species include bromes (*Bromus* spp.), Italian ryegrass, wild oat, orchard grass, Mediterranean barley, filarees (*Erodium* spp.), and others. Nevertheless, native species do occur in this grassland, including bulbs, legumes, and some grasses, including blue wildrye. Ruderal species often occur scattered at grassland edges and in areas that have been historically disturbed and include yellow star-thistle, wild carrot, and hedge parsley (*Torilis arvensis*). All of the grass species are dormant during the dry summer months. On the project sites, this plant community supports scattered valley oaks. Some of the valley oaks growing within the grassland community are exceptional specimens with a diameter at breast height (dbh) of over 40 inches. These meet Nevada County criteria for a Landmark Tree.

Sites 10, 11, 12, and 13 are grasslands or have large grassland components.

Valley Oak Woodland

Valley oak is the dominant species in this habitat, though other oak species may also occur. Valley oaks in this habitat type grow in a mosaic with annual grasslands and more dense groupings of forest-like stands. Dispersed stands are generally on upland soils while a more dense woodlands generally are along streams or on more fertile soils. Shrubs and grasses make up the understory, with a more dense shrub layer typically occurring along drainages. Poison oak, toyon, and coffeeberry are common understory species. On the sites, understory species in this habitat type are non-native grasses, poison oak, Oregon ash, and Himalayan blackberry. Associate trees include blue oak and interior live oak.

Site 13 supports a valley oak woodland community in groupings among non-native annual grassland.



Limits of wetlands depicted are estimates only. Wetland limits have not been formally delineated or verified by regulatory agencies.

Source: Dudek, April 2013; Nevada County GIS 2013; ESRI 2012.
 Note: Habitats mapped according to CWHR classification scheme.
 Field Surveys: May 5, May 9, and November 27, 2012.



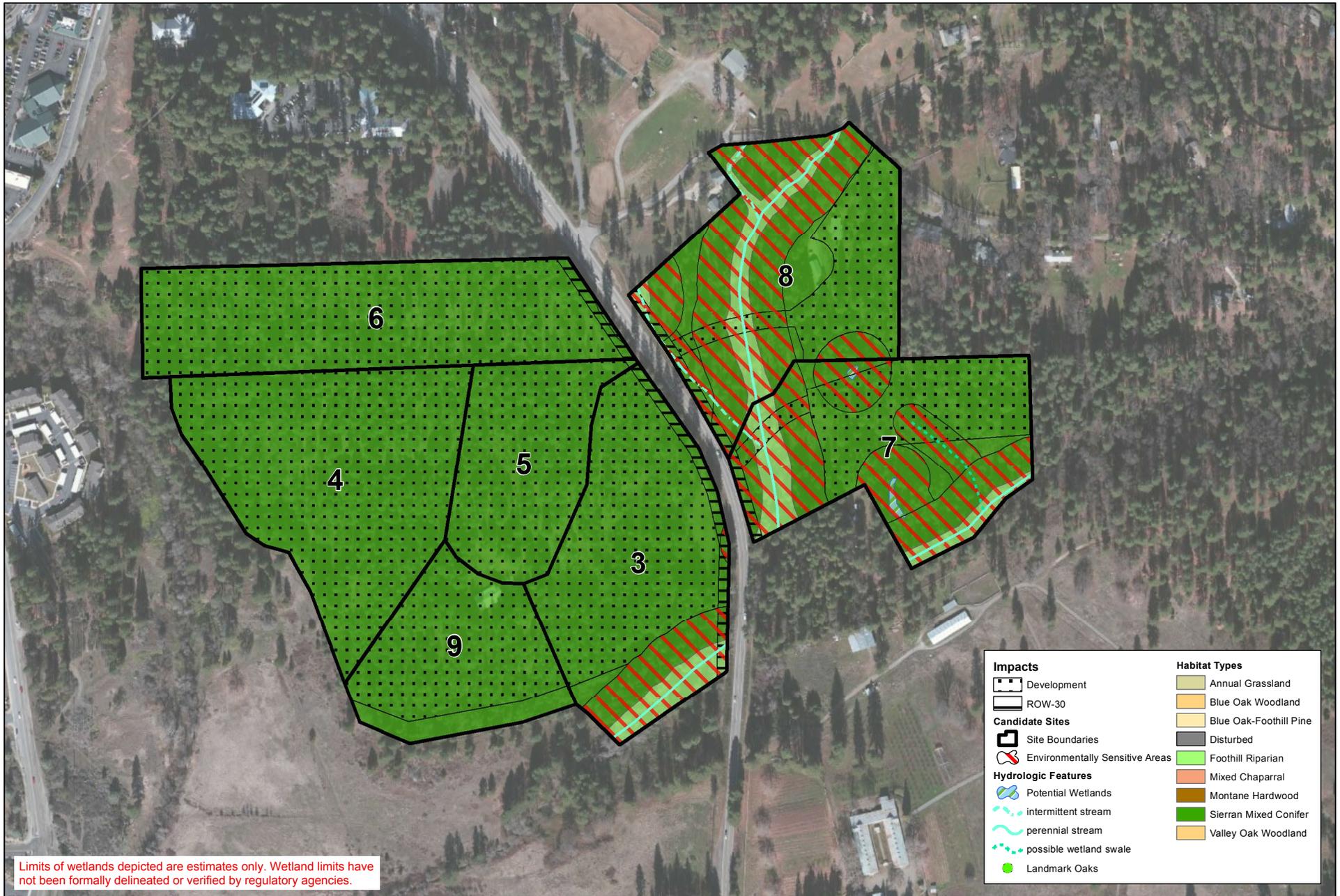
4/22/13 JN 131242-18945 MAS

COUNTY OF NEVADA
 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR
Site 1 - Habitat Impacts Map

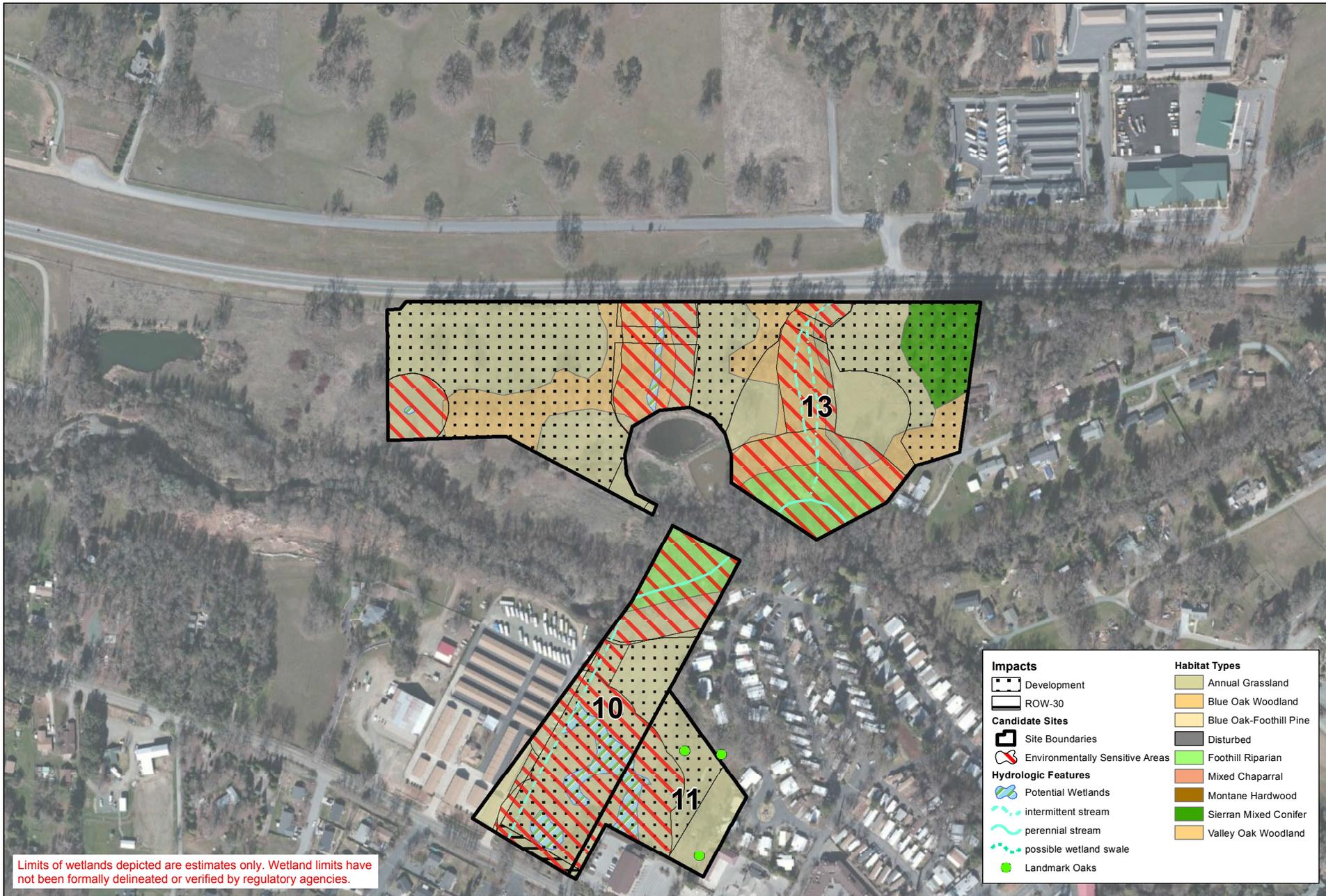
FIGURE 4.4-1



Source: Dudek, April 2013; Nevada County GIS 2013; ESRI 2012.
 Note: Habitats mapped according to CWHR classification scheme.
 Field Surveys: May 5, May 9, and November 27, 2012.



Source: Dudek, April 2013; Nevada County GIS 2013; ESRI 2012.
 Note: Habitats mapped according to CWHR classification scheme.
 Field Surveys: May 5, May 9, and November 27, 2012.



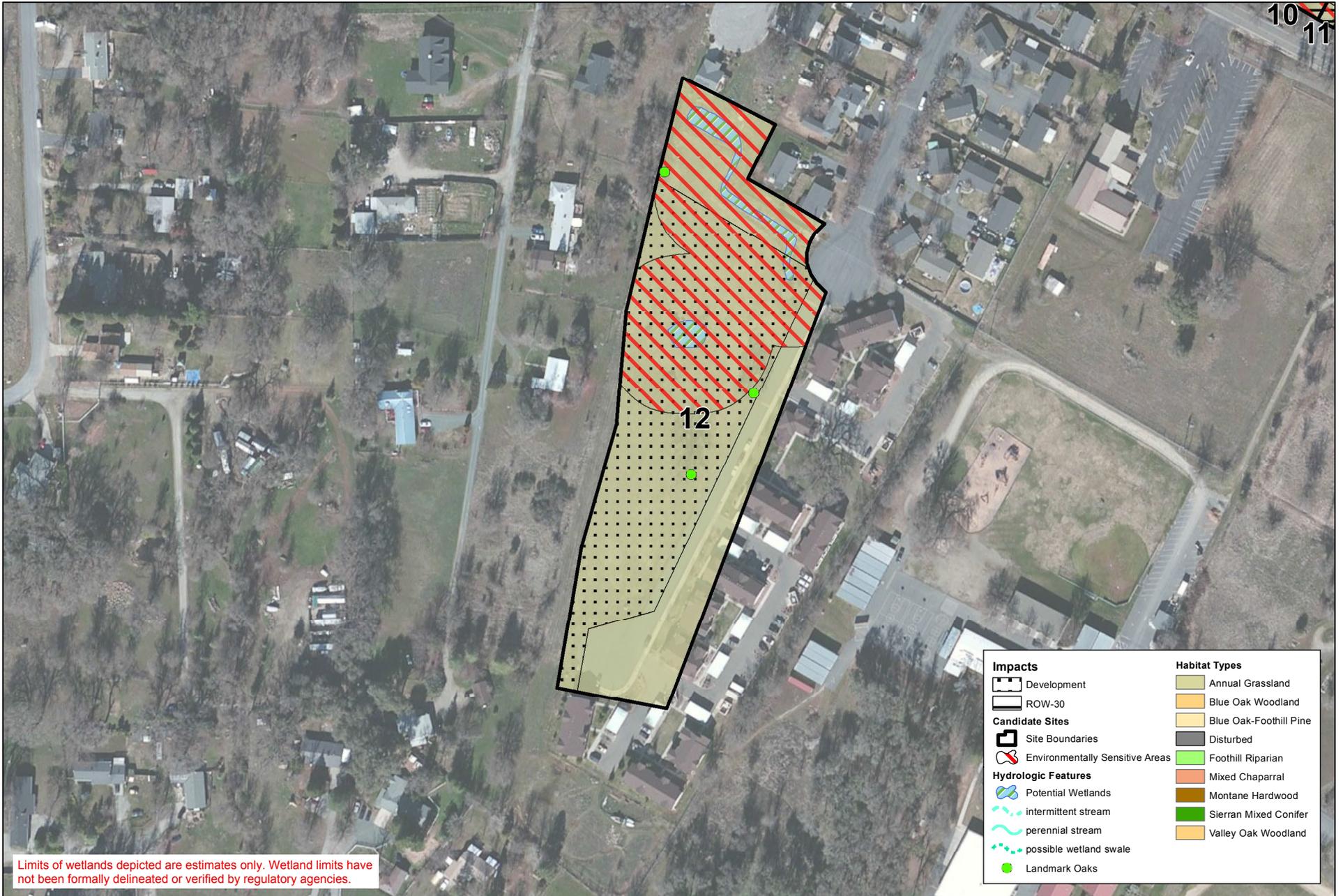
Source: Dudek, April 2013; Nevada County GIS 2013; ESRI 2012.
 Note: Habitats mapped according to CWHR classification scheme.
 Field Surveys: May 5, May 9, and November 27, 2012.



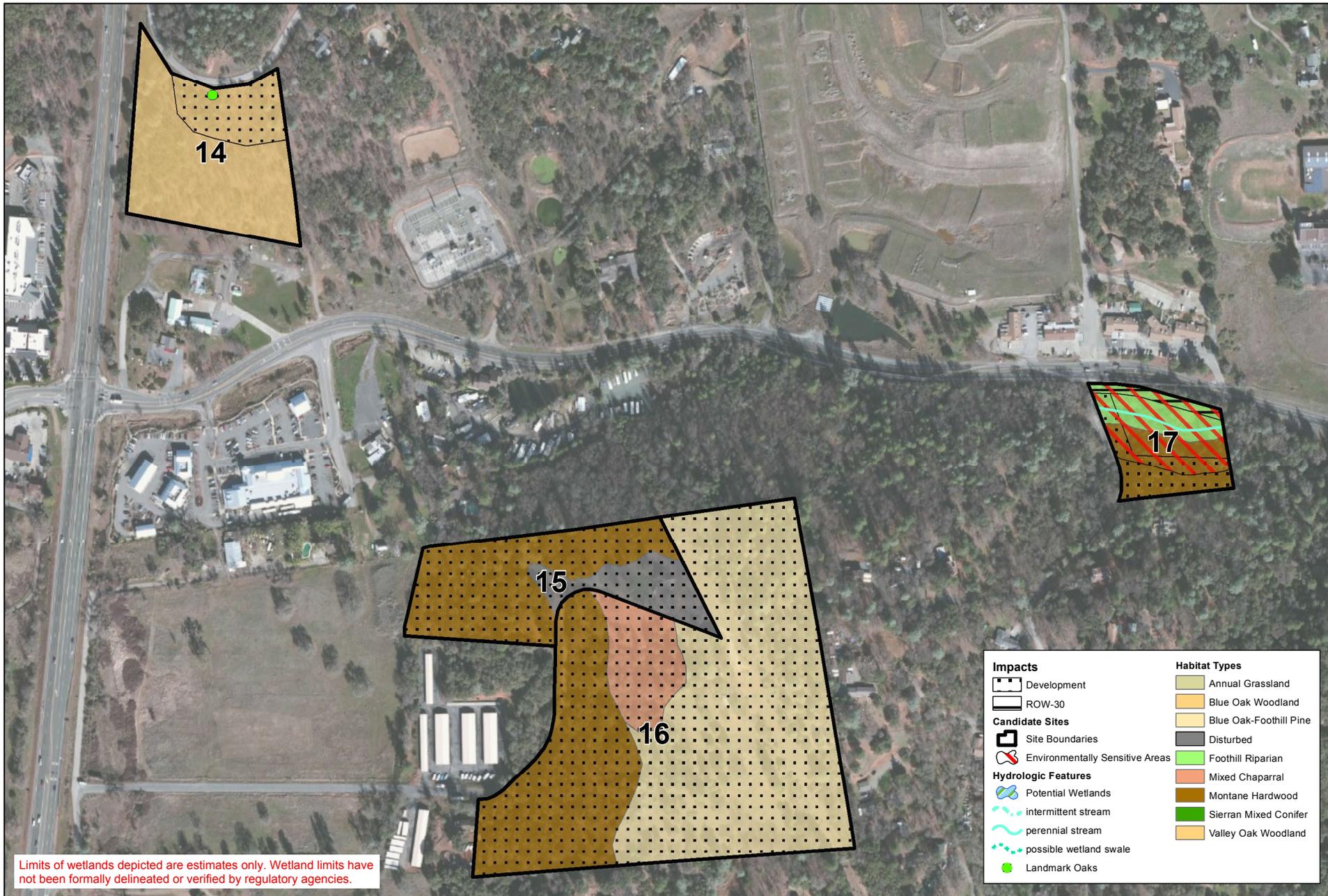
4/22/13 JN 131242-18945 MAS

COUNTY OF NEVADA
 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR
Sites 10, 11 & 13 - Habitat Impacts Map

FIGURE 4.4-4

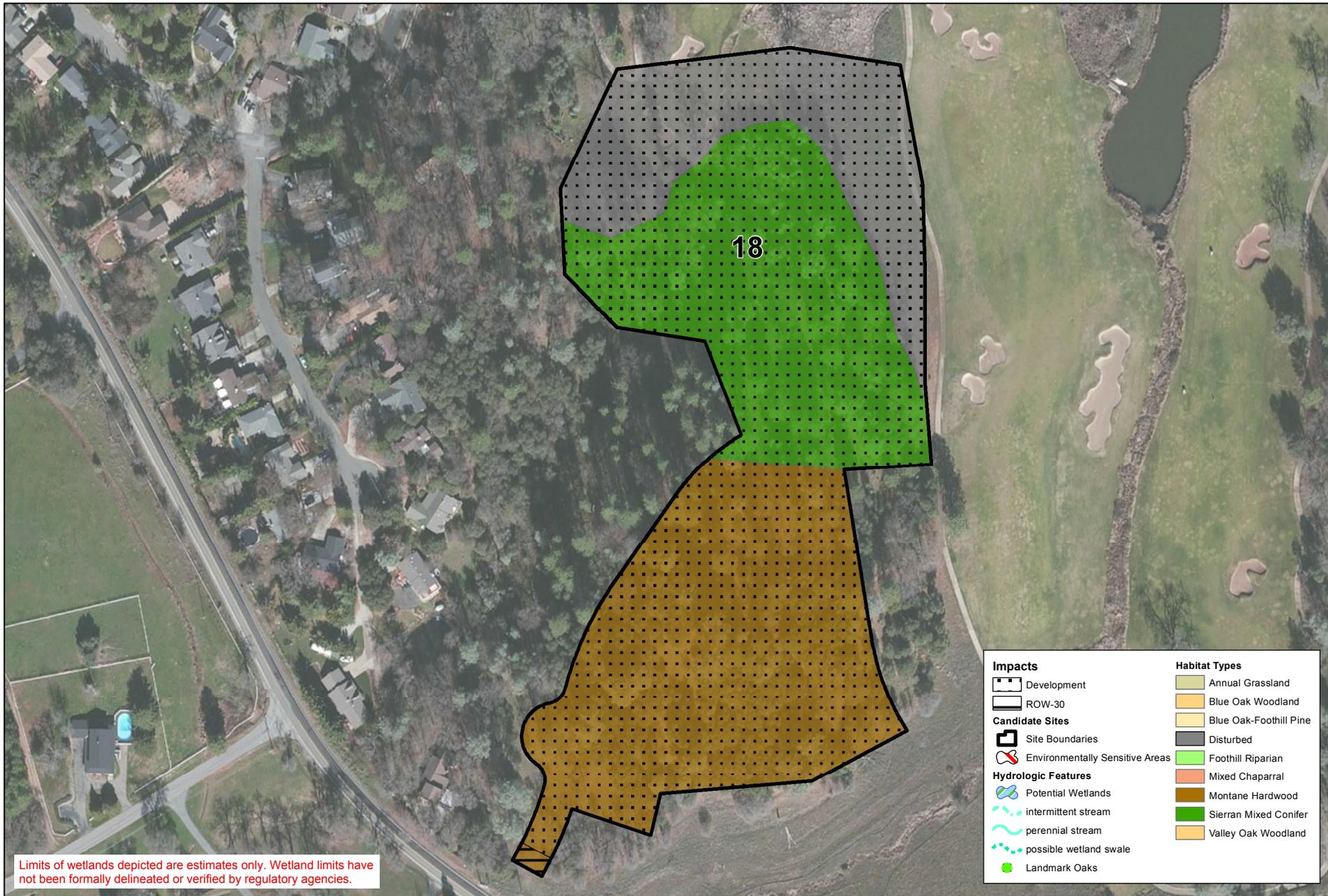


Source: Dudek, April 2013; Nevada County GIS 2013; ESRI 2012.
 Note: Habitats mapped according to CWHR classification scheme.
 Field Surveys: May 5, May 9, and November 27, 2012.



Limits of wetlands depicted are estimates only. Wetland limits have not been formally delineated or verified by regulatory agencies.

Source: Dudek, April 2013; Nevada County GIS 2013; ESRI 2012.
 Note: Habitats mapped according to CWHR classification scheme.
 Field Surveys: May 5, May 9, and November 27, 2012.



Source: Dudek, April 2013; Nevada County GIS 2013; ESRI 2012.
 Note: Habitats mapped according to CWHR classification scheme.
 Field Surveys: May 5, May 9, and November 27, 2012.

Blue Oak Woodland

The dominant species in blue oak woodland is the blue oak. Other trees found in blue oak woodland include interior live oak, California buckeye (*Aesculus californica*), and foothill or gray pine. The understory in blue oak woodlands is often herbaceous, but can include a number of shrubs. Non-native grasses form the most common understory plants, but buckbrush, poison oak, and white-leaf manzanita may be common.

Site 14 supports blue oak woodland with a small patch of interior live oak on the west side.

Montane Hardwood

Montane hardwood habitats can have a variety of tree species depending on the elevation and location in the state. The dominant species are hardwood trees, mostly oaks. Conifers may be present in small amounts and vary by location, but typically make up less than a third of the trees in this community. On the Nevada County sites, Montane Hardwood is dominated by interior live oak, California black oak, and blue oak. Ponderosa pines and foothill pines may be present in this community. Montane Hardwood habitats often have a shrubby understory because of the lack of fire.

Sites 15, 16 and 17 support Montane Hardwood habitat units.

Sierran Mixed Conifer

A Sierran Mixed Conifer habitat supports a variety of coniferous tree species and often includes several hardwood species. On the Nevada County sites this habitat is dominated by ponderosa pine, but incense cedar, Douglas-fir, and sugar pine are also present on most sites. Hardwoods include California black oak and madrone. The understory is often shrubby and common species are toyon, white-leaf manzanita, and coffeeberry (*Frangula californica*). Many of these shrubs would be absent in the presence of periodic fires. Many of these sites exhibit evidence of recent or historic timber harvesting or fuels reduction treatments that have reduced tree stem density or cleared the understory shrub layer.

Sites 13, 2 and 3 through 9 support Sierran Mixed Conifer habitat.

Foothill Riparian

Foothill Riparian habitat occurs along creeks, streams, and rivers in the foothills of California. This habitat is composed of hardwood species that include Fremont cottonwood (*Populus fremontii*), white alder, and willows (*Salix* spp.). The willows may be trees or shrubs, depending on the level of disturbance in the stream system. Valley oaks are common along the edges of some riparian habitats. American dogwood or red osier (*Cornus sericea*), California rose, and Himalayan blackberry are common shrubby species.

Sites 3, 7, 8, 10, 13 and 17 have a riparian component embedded in the primary habitat.

Mixed Chaparral

Mixed chaparral supports a variety of shrub species that typically grow in dense groupings. In the foothills area this community sometimes is early successional on recovering disturbance areas within other communities. This community was observed on one of the study area parcels in the Lake of the Pines area. Species that occur in the mixed chaparral community on this parcel include whiteleaf manzanita, buckbrush, yerba santa, coyote brush, and hoary coffeeberry.

Site 16 supports a small unit of this habitat type.

Blue Oak-Foothill Pine Woodland

This habitat type differs from blue oak woodland by having a greater proportion of foothill pines intermixed with blue oak and interior live oak. The blue oak-foothill pine woodland community occurs on one of the sites in the Lake of the Pines area. This habitat typically has mixed species tree and shrub groupings with annual grassland in small openings. Canopy cover is generally low and trees are mature. Overstory is dominated by foothill pine and blue oak, but interior live oak and California buckeye may also be present. The shrub layer, where present, is comprised of white-leaf manzanita, poison oak, and buckbrush. Non-native annual grasses and forbs occur in a small-scale mosaic of openings.

Site 16 supports a small area of the blue oak-foothill pine community.

**Table 4.4-1
 Plant Communities at Each Project Site**

Site	Disturbed (Acres)	Annual Grassland (Acres)	Valley Oak Woodland (Acres)	Blue Oak Woodland (Acres)	Montane Hardwood (Acres)	Sierran Mixed Conifer (Acres)	Foothill Riparian (Acres)	Mixed Chaparral (Acres)	Blue Oak-Foothill Pine (Acres)
1	1.15	-	-	-	-	-	-	-	-
2	-	-	-	-	-	10.48	-	-	-
3	-	-	-	-	-	9.28	0.83	-	-
4	-	-	-	-	-	11.48	-	-	-
5	-	-	-	-	-	5.61	-	-	-
6	-	-	-	-	-	10.06	-	-	-
7	-	-	-	-	-	8.23	1.37	-	-
8	-	-	-	-	-	11.00	1.48	-	-
9	-	-	-	-	-	5.81	-	-	-
10	-	5.55	-	-	-	-	1.03	-	-
11	-	3.08	-	-	-	-	-	-	-
12	-	4.56	-	-	-	-	-	-	-
13	-	10.81	6.52	-	-	1.29	1.31	-	-
14	-	-	-	5.13	-	-	-	-	-
15	1.37	-	-	-	3.86	-	-	-	-
16	-	-	-	-	5.25	-	-	1.68	11.93
17	-	-	-	-	1.43	-	1.04	-	-
18	2.42	-	-	-	4.82	3.80	-	-	-

Table 4.4-1, continued

Site	Disturbed (Acres)	Annual Grassland (Acres)	Valley Oak Woodland (Acres)	Blue Oak Woodland (Acres)	Montane Hardwood (Acres)	Sierran Mixed Conifer (Acres)	Foothill Riparian (Acres)	Mixed Chaparral (Acres)	Blue Oak-Foothill Pine (Acres)
	Total Acreage								
	4.94	24	6.52	5.13	15.36	77.04	7.06	1.68	11.93
	*Acreage total for all habitats on a parcel may vary slightly from County parcel size data due to mapping.								

WATERS OF THE U.S.

An estimation of the extent of wetlands within each site was made during the field work conducted. These features are shown on the habitat maps in Figures 4.4-1 through 4.4-10. Potential waters of the U.S. (including wetlands) within the 18 rezone sites include approximately 1.71 acres of seasonal wetlands, seeps, and wetland swales. This is likely an overestimate of the area total waters of the U.S. for these types of features, as it includes the area of the constructed drainage basin on Site 12 and other isolated features that may not be subject to regulation under Section 404 of the Clean Water Act.

Additionally, the 18 sites include an estimated 3,194 linear feet of perennial stream and 2,719 linear feet of intermittent stream channel. The area of these features was not estimated, as a detailed wetland delineation was not conducted for this analysis. Hydrologic features that could qualify as waters of the U.S. occur on Sites 2, 3, 7, 8, 10, 11, 12, 13, and 17, as shown in Table 4.4-2. No potential waters of the U.S. were identified on Sites 1, 4, 5, 6, 9, 14, 15, 16, and 18. It should be noted that hydrologic features not regulated as waters of the U.S. may be regulated by the State Water Resources Control Board as waters of the state.

Most of the streams within the project sites have associated riparian vegetation. Impacts to the bed, bank, or channel of rivers, streams, ponds, or lakes are regulated under Section 1602 of the California Fish and Game Code. This is usually interpreted to extend CDFW's jurisdiction to the limits of the riparian zone or hydrophytic vegetation associated with these hydrologic features.

**Table 4.4-2
Potential Waters of the U.S.**

Site	Feature Type	Estimated Size (Acres/Linear Ft.)	Location
1	--	--	--
2	potential seep	0.14/--	southwest margin of site
3	perennial stream	--/448	southeast site boundary
4	--	--	--
5	--	--	--
6	--	--	--

Table 4.4-2, continued

Site	Feature Type	Estimated Size (Acres/Linear Ft.)	Location
7	perennial stream	--/462	southeast site boundary
	perennial stream	--/391	western portion of site
	intermittent stream	--/96	bisects western portion of site
	potential seep	0.02/--	central portion of site - scattered
	wetland swale	0.06/--	eastern third of site
	wetland swale	<0.10/356	southeast corner, area not defined
8	intermittent stream	--/538	southwest site boundary
	intermittent stream	--/277	northwest corner
	wetlands	<0.10/--	northwest corner and scattered in western third of site in past mining disturbance areas
	perennial stream/vegetated ditch	--/932	bisects site north to south; has riparian corridor up to 100 feet wide
9	--	--	--
10	isolated wetland	0.17/--	southern half of site
	wetland swale	0.53/--	southern half of site
	intermittent stream	--/755	western site boundary
	perennial stream (Squirrel Creek)	--/323	bisects north end of site
11	seasonal wetland	0.27/--	southwest corner of site
12	constructed drainage basin	0.11/--	northern site boundary.
	seasonal wetland	0.04/--	north-central portion of site
13	wetland	0.01/--	southwestern corner of site
	intermittent stream	--/646	bisects center of site north-south
	intermittent stream	--/407	bisects center of site north-south, channel splits from other intermittent channel
	wetland swale	0.16/--	center of site, north of offsite wastewater ponds
	perennial stream (Squirrel Creek)	--/248	southeast corner of site
14	--	--	--
15	--	--	--
16	--	--	--
17	perennial stream (Ragsdale Creek)	--/390	bisects site E-W and has wide associated riparian zone

Table 4.4-2, continued

Site	Feature Type	Estimated Size (Acres/Linear Ft.)	Location
18	--	--	--

The features identified on the sites include tributaries to Wolf Creek on sites in the Grass Valley SOI area, Squirrel Creek in the Penn Valley area and Ragsdale Creek in the Lake of the Pines area. The EIR analysis did not include conducting formal wetland delineations to determine the extent of waters of the U.S. that would be subject to regulation by the U.S. Army Corps of Engineers (USACE). The estimate of waters of the U.S. provided in this EIR is considered conservative and could include features that might be determined to be isolated and therefore not regulated under Section 404 of the Clean Water Act and not within USACE jurisdiction. To determine the actual area subject to USACE jurisdiction, a formal wetland delineation must be prepared and verified by the USACE for each site containing potential wetland features.

OAK TREES AND WOODLANDS

Landmark Trees

Oak trees meeting the size standard to be considered Landmark Trees were observed on Sites 11, 12, 13, 14, and 18. It is considered possible that Landmark Trees could also occur within forested areas on Sites 15, 16, and 17.

Landmark Groves

Oak woodlands meeting the Nevada County Code definition of a Landmark Grove were observed within Sites 13, 14, 15, 16, 17, and 18. See mapping of habitat types for each site provided in Appendix C. Landmark Groves observed included a blue oak woodland on Site 14, as well as mixed oak woodlands and oak woodlands dominated by interior live oak, valley oak, and black oak.

Oak Woodlands

The oak woodlands on the subject sites are considered moderately degraded. Moderately degraded oak woodlands have been altered from a pristine state by limited roads or development, but natural regeneration still occurs and wildlife habitat values remain. Woodlands on the sites are somewhat fragmented by surrounding development and roads, and many have been modified by past land use practices. Impacts within these woodlands are considered mitigable.

RARE PLANTS

Intensive floristic surveys for rare plants were not conducted as part of the surveys conducted for the biological inventory. Reconnaissance-level surveys were conducted in May and November of 2012 and did not coincide with blooming periods for all rare plants that could be found on the RH Combining District sites. No special-status plant species were observed during surveys conducted on the RH Combining District sites, though there is potential for several species of rare plants to occur within specific habitats found on some of the sites. Serpentine soils in Nevada County are known to support several rare species that occur only within these soil types. None of the sites are underlain by serpentine or gabbro-derived soil types and no expression of serpentine plant communities was observed during the field surveys. Special-status plants endemic to serpentine soils were eliminated from

further consideration. Several of the special-status plant species with potential to occur typically inhabit wetland or riparian habitats, which occur on several of the sites.

SPECIAL-STATUS SPECIES

“Special-status species” refers to those plant or animal species which:

- Are listed, proposed for listing, or candidates for future listing as threatened or endangered under the Federal Endangered Species Act (FESA)
- Are listed or candidates for future listing as threatened or endangered under the California Endangered Species Act (CESA)
- Meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines
- Are identified as a species of special concern by the California Department of Fish and Wildlife (CDFW)
- Plants considered by the CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2)
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.)
- Are fully protected in California in accordance with the California Fish and Game Code, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes)

The special-status species considered for 18 rezone sites are those that are considered to have a reasonable probability of occurring at each site under current conditions. According to the CNDDDB, there are no previously documented occurrences of special-status species within the 18 rezone sites (CDFW 2012), although several special-status species occurrences have been documented within an approximate five-mile radius of some sites.

Special-Status Species Potentially Occurring within the Project Sites

The CNDDDB search recorded occurrences of 14 special-status plant species and 14 special-status wildlife species within the 9-quad regions searched around the Lake of the Pines and Penn Valley and Grass Valley site clusters. One additional plant species was added from the CNPS list for the 9-quad search area and two additional wildlife species were added from the list returned by the USFWS database search for Nevada County. Field surveys and the best professional judgment of Dudek biologists were used to further refine this list of species based on habitat requirements and occurrence location data.

As previously mentioned, several of the special-status species of plants that are known to occur near some of the sites are known only from serpentinite or gabbro soil units, which do not occur on any of the sites. The USFWS list for Nevada County includes species that only occur at elevations far below the study area, like Delta smelt, and that occur only at higher elevation in the Sierra Nevada or east of the Sierra crest, such as Lahontan cutthroat trout. Species known only from much lower or higher elevations or from habitats that are not found on the sites were eliminated from further consideration. Of the 31 species considered, four plants and seven wildlife species have some potential to occur on the project site and are included in Table 4.4-3. One additional plant species, Pine Hill flannelbush, is included in Table 4.4-3 because it is federally listed as endangered and there are occurrences in proximity to some of the sites near Grass Valley. Similarly, though California red-legged frog

is considered unlikely to occur, it is included in the table because there are occurrences of this species in the project region and it is a listed species. Complete lists of all special-status plant and wildlife species identified by database queries for the project region, as well as a discussion of habitat requirements and potential to occur on the sites, are included in the biological inventory report included in Appendix C. A discussion of those species considered possible or likely to occur within the study area is provided following the table.

It should be noted that the table below does not include all species of raptors or nesting migratory songbirds that could occur on the sites, and several common species of raptors and many species of nesting migratory songbirds could occur on the project parcels and are protected under the Fish and Game Code and Migratory Bird Treaty Act. Dudek biologists did not encounter any special-status species of plants or wildlife during their field visits to the sites.

**Table 4.4-3
Special-Status Species with the Potential to Occur
within the Project Rezone Sites**

Species	Federal	State	CNPS	Habitat	Potential for Occurrence**
Plants					
Western viburnum <i>Viburnum ellipticum</i>	none	none	2.3	Chaparral; cismontane woodland; lower montane coniferous forest. North facing, shaded slopes.	Possible - Suitable habitat on several forested sites. (Sites 3, 4, 7, 8, 9, 17 most suitable)
Brownish beaked-rush <i>Rhynchospora capitellata</i>	none	none	2.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest / mesic; elevation range 455 - 2000 meters (approx. 1,493 - 6,652 feet).	Possible - Potentially suitable habitat occurs near seeps, wetlands, and along the margins of drainages on several of the sites. (Sites 3, 7, 8, 10, 11, 12, 13, 17)
Finger rush <i>Juncus digitatus</i>	none	none	1B.1	Vernal pools (cismontane woodland; lower montane coniferous forest). 660-790 meters.	Possible - Wet, open areas on several sites provide marginally suitable habitat. (Sites 3, 7, 8, 10, 11, 12, 13)
Scadden Flat checkerbloom <i>Sidalcea stipularis</i>	none	CE	1B.1	Marshes and swamps (montane freshwater).	Possible - Potentially suitable habitat occurs near seeps, wetlands, and along the margins of drainages on several of the sites. Recorded in Nevada County growing with <i>Rhynchospora capitellata</i> . (Sites 3, 7, 8, 10, 11, 12, 13, 17)

Table 4.4-3, continued

Species	Federal	State	CNPS	Habitat	Potential for Occurrence**
Pine Hill flannelbush <i>Fremontodendron decumbens</i>	FE	CR	1B.2	Chaparral; cismontane woodland; [gabbroic or serpentinite].	Unlikely – Not observed during surveys. Typically occurs on serpentinite or gabbro substrates that do not occur on any of the sites.
Invertebrates					
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT***	none	--	Elderberry shrubs, found in riparian corridors and oak woodland.	Possible - Elderberry shrubs were observed in Squirrel Creek drainage and could occur along other drainages and in woodlands (occurs on Sites 10 and 13; possible on Sites 3-10, 15-18).
Amphibians					
California red legged frog <i>Rana draytonii</i>	FT	none	--	Ponds or slow moving water with overhanging vegetation	Unlikely. Aquatic habitat on sites is flowing streams or shallow and intermittent. Wastewater ponds near Site 13 lack vegetation. Nearest occurrence is over 6 miles northeast of Grass Valley sites.
Foothill yellow-legged frog <i>Rana boylei</i>	none	CSC	--	Shaded streams with rocky substrate. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	Likely - Squirrel Creek, Ragsdale Creek, and a perennial tributary to Wolf Creek provide suitable habitat. Species reported from Squirrel Creek and known from Bear River in Nevada County. (Sites 3, 7, 10, 13, 17)
Reptiles					
Western pond turtle <i>Emys marmorata</i>	none	CSC	--	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	Possible – Aquatic habitat on some sites is marginally suitable. Moderate flows and lack of basking sites make available aquatic habitat suboptimal. (Sites 3, 7, 10, 13, 17)

Table 4.4-3, continued

Species	Federal	State	CNPS	Habitat	Potential for Occurrence**
Birds					
California black rail <i>Laterallus jamaicensis coturniculus</i>	none	CT	--	Salt and freshwater marshes with dense cover. Interior populations known from Sierra Nevada foothills. Typical inland habitat is irrigation-fed wetlands >0.25-acre.	Possible - Dense vegetation in riparian corridors are marginally suitable habitat. (Sites 3, 7, 8, 10, 13, 17)
Long-eared owl <i>Asio otus</i>	none	CSC	--	Dense, mixed forests and tall shrublands, usually next to open spaces. Often nests in an abandoned crow, magpie, or hawk nest, occasionally in a natural tree cavity.	Possible - Riparian and oak woodland communities, especially near open grassland areas, provide suitable nesting habitat.
Yellow warbler <i>Dendroica petechia</i>	none	CSC	--	Breeds in riparian vegetation throughout California; populations in Sacramento and San Joaquin valleys are declining. Common in eastern Sierran riparian habitats below 8,000 feet.	Possible - Riparian corridors provide suitable habitat for this species. (Sites 3, 7, 8, 10, 13, 17)
Grasshopper sparrow <i>Ammodramus saviannarum</i>	none	CSC	--	Breeds in grasslands and savannahs in rolling hills and lower mountain hillsides up to 5000 feet elevation.	Possible - Suitable grassland habitat occurs on some of the sites, though the project area is considered outside the typical range of this species. This species and other migratory songbirds could nest within sites.
Nesting Raptors****	none	CFP	--	Grasslands, large trees in woodland/forest/riparian communities.	Likely - Suitable habitat is present on all sites.

*Status Codes:

Federal

- FE Federal Endangered
- FT Federal Threatened
- FP Federal Proposed Species

State

- CE California Endangered
- CT California Threatened
- CR California Rare (plants only)
- CSC California Species of Concern
- CFP California Fully Protected

CNPS

- Rank 1B Rare, Threatened, or Endangered in California
- Rank 2 R, T, or E in California, more common elsewhere
 - 1- Seriously threatened in California
 - 2- Fairly threatened in California
 - 3- Not very threatened in California

**Definitions for the Potential to Occur:

- **None.** Habitat does not occur.
- **Unlikely.** Some habitat may occur, but disturbance or other activities may restrict or eliminate the possibility of the species occurring. Habitat may be very marginal, or the study area may be outside the range of the species.
- **Possible.** Marginal to suitable habitat occurs, and the study area occurs within the range of the species.
- **Likely.** Good habitat occurs, but the species was not observed during surveys.
- **Occurs:** Species was observed during surveys.

***Proposed for de-listing by USFWS in 2012.

****Protected under Fish & Game Codes and Federal Migratory Bird Treaty Act.

One plant, Scadden Flat checkerbloom, is state listed as endangered; one wildlife species, California black rail, is state listed as threatened; five wildlife species, Foothill yellow-legged frog, western pond turtle, long-eared owl, yellow warbler, and grasshopper sparrow are California Species of Special Concern (CSC); and all are CNPS Rank 1b and 2 species. Of the four plants and seven wildlife species with some potential to occur on the project sites, one, Scadden Flat checkerbloom, is state listed as endangered, and two are federally and/or state listed as threatened, including Valley elderberry longhorn beetle and California black rail. The remaining four special-status wildlife species are California Species of Special Concern. All special-status plants included in Table 4.4-3 are CNPS Rank 1 or 2 species. It should be noted that many species of migratory songbirds and nesting raptors that could occur on the project sites are afforded protection under the Migratory Bird Treaty Act and Fish and Game Code. A detailed discussion of each of these species is presented below.

Plants

Western viburnum (*Viburnum ellipticum*) is a three to 12 foot shrub in the honeysuckle family (Adoxaceae). It has no state or federal status. It is a CNPS Rank 2 species, meaning that it is rare in California, but more common elsewhere. It is differentiated from other members of the family by its simple, coarsely dentate leaves. It grows in chaparral, foothill woodlands, and lower montane forests at widely scattered locations in the Sierra Nevada and northern Coast Ranges of California. Viburnum is much more common and widespread from Oregon north. Oval-leaved viburnum blooms in May and June. This plant was not observed during surveys, and no occurrences are known from within five miles of any of the sites, but suitable habitat occurs on several forested sites. Sites 3, 4, 7, 8, 9, and 17 provide shaded slopes that would be most suitable for this species.

Brownish beaked-rush (*Rhynchospora capitellata*) is not listed pursuant to the federal or state Environmental Species Act; however, it is designated as a CNPS Rank 2 species. This species is an herbaceous perennial that occurs in montane coniferous forest in meadows, seeps, marshes, swamps, and moist areas. Brownish-beaked rush blooms from July to August and it is known to occur at elevations ranging from $\pm 1,500$ to $\pm 6,500$ feet. There are recorded occurrences of this species from Nevada County. The CNDDDB documents one occurrence of brownish-beaked rush approximately two miles northwest of Site 2. Wetlands and riparian areas provide potential habitat for this species.

Finger rush (*Juncus digitatus*) is an annual monocot in the rush family (Juncaceae). It has no state or federal status, but is a CNPS Rank 1B.1 species. It forms dense clumps of thin stems that are red in color and short relative to other common rushes. The fruit is a red, one to two centimeter long, curved, linear-oblong capsule. Finger rush grows in vernal pools, swales, and seeps at elevations ranging from $\pm 2,100$ to $\pm 2,700$ feet. In California this species is known from occurrences in the foothills of the Cascade Range in Shasta County and from the Sierra Nevada foothills in Nevada County. A large population of this species is recorded from just southeast of the intersection of Idaho Maryland Road and Brunswick Road, less than a half of a mile south of the Brunswick site cluster. Wet, open areas on Sites 3, 7, and 8 provide marginally suitable habitat for this species.

Scadden Flat checkerbloom (*Sidalcea stipularis*) is a perennial member of the mallow family (Malvaceae). It is a California endangered species and is a Rank 1B CNPS species. The leaves of this checkerbloom are spread evenly along the stems rather than being crowded at the base of the stems, a feature that separates it from most other checkerblooms. Two other species have similar leaves, but only the Scadden Flat checkerbloom occurs in the Sierra

Nevada. It occurs at only three locations in Nevada County near Grass Valley where it occurs in wetlands. It blooms in July and August.

Special-Status Wildlife

The 18 sites provide habitat components that could support a variety of wildlife species. Aquatic habitats and associated riparian corridors on several of the sites provide habitat for aquatic-dependent species and important cover for wildlife movement in the area. Forest and woodland communities that occur on many of the sites, particularly those with a nearby water source or close to open foraging habitat, provide important cover for wildlife and provide high quality roosting and nesting opportunities for songbirds and shelter for mammals. Though few were noted on the surveyed parcels, standing dead snags on forested sites provide nesting cavities for birds such as owls and woodpeckers and den or nest cavities for small mammals. Taller trees located near open areas could provide good nesting sites for raptors such as red-tailed hawk and other species.

Common wildlife observed on the sites included mule deer (*Odocoileus hemionus*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), chipping sparrow (*Spizella passerina*), California quail (*Callipepla californica*), and Brewer's blackbird (*Euphagus cyanocephalus*). Common wildlife expected to occur on or move through the site includes red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), common raven (*Corvus corax*), California ground squirrel (*Otospermophilus beecheyi*), black-tailed hare (*Lepus californicus*), striped skunk (*Mephitis mephitis*), Pacific treefrog (*Pseudacris regilla*), western gray squirrel (*Sciurus griseus*), coyote (*Canis latrans*), and mule deer. Riparian communities associated with the various drainages crossing the study corridor are expected to provide important seasonal nesting habitat for numerous migratory songbirds, including some special-status species. No known established deer migration routes or critical habitat is known to occur on any of the sites.

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) is listed as threatened under the Federal Environmental Species Act, though the USFWS formally proposed to de-list the species in October 2012 following a lawsuit brought against USFWS by a coalition of flood control agencies, reclamation districts, and farm bureaus. The proposed de-listing is currently under public review.

This species is associated with elderberry shrubs (*Sambucus sp.*) during its entire life cycle. Thus, these shrubs are typically protected as a means of avoiding impacts to the beetle. It appears that in order to serve as habitat, elderberry shrubs must have stems one inch or greater in diameter at ground level. The beetles are not found in elderberry above 3,000 feet in elevation. The adults emerge from pupation inside the stems of the elderberry shrubs in the spring, as the flowers on the shrubs begin to open. The exit holes made by the emerging adults are distinctive small oval openings. Often these holes are the only clue that the beetles occur in an area. The adults feed on the elderberry foliage until the onset of mating in June. The females lay eggs in crevices in the bark before dying a short time later. Upon hatching, the larvae tunnel into the stem of the elderberry shrub where they spend one to two years eating the interior wood, which constitutes their sole food source while in the stem.

Elderberry shrubs were observed on Sites 10 and 13 near Squirrel Creek and could be found on others, particularly those with a riparian component. Sites in the Grass Valley area are near the upper elevation range of this species.

Foothill yellow-legged frog (*Rana boylei*) is a California Species of Special Concern and a U.S. Forest Service and Bureau of Land Management sensitive species. This species is found

in the drainages on the western slope of the Sierra Nevada up to about 6,000 feet. They are found in or near rocky perennial streams with cobble-sized or larger gravels and rocks. They prefer partially shaded habitats and shallow riffles but are occasionally found in vegetated backwater pools and slow-moving rivers with mud substrate. This species is reported from Squirrel Creek and known from the Bear River in Nevada County in several locations less than five miles from some of the project sites. Squirrel Creek, Ragsdale Creek, and a perennial tributary to Wolf Creek provide suitable habitat for this species on Sites 3, 7, 10, 13, and 17.

Western pond turtle (*Emys marmorata*) is a California Species of Special Concern. This species is found in quiet waters in a wide variety of aquatic habitats, including ponds, marshes, lakes, streams, and irrigation ditches and may occur in water that ranges in salinity content from fresh to brackish to seawater. This species prefers habitats with abundant cover (logs, algae, vegetation) and exposed basking sites (logs, boulders). Females build nests along wetland margins or in adjacent uplands in April and May. Egg-laying occurs in July and August and requires soils that are at least 10 centimeters deep, usually with southern exposure. Females leave the watercourse in late afternoon and evening, and travel into adjacent wetland margins or uplands to build nests. Aquatic habitat on some sites is marginally suitable for this turtle. Moderate flow rates and lack of basking sites make available aquatic habitat suboptimal; nevertheless, there is some potential for this species to occur on Sites 3, 7, 10, 13, and 17.

California black rail (*Laterallus jamaicensis coturniculus*) is a state listed threatened species that inhabits salt, fresh, and brackish water marshes. In freshwater habitats, their preference is for dense bulrush and cattails. They require marshes with little daily and/or annual water fluctuations in order to provide adequate cover from predators and to conceal nest sites. Their nests are concealed in dense vegetation, usually consisting of herbaceous wetland species. Since 1994, populations of the California black rail have been documented in several counties in the foothills of the Sierra Nevada. Typical inland habitat consists of persistent irrigation-fed wetlands over 0.25 acre that support dense riparian and wetland vegetation, including cattails, rushes, and Himalayan blackberry. The CNDDDB documents several occurrences of California black rail within less than five miles of several of the sites. While no high quality habitat for this species occurs within any of the proposed rezone sites, there is some potential for this species to utilize dense vegetation associated with perennial and intermittent streams on Sites 3, 7, 8, 10, 13, and 17.

Long-eared owl (*Asio otus*) is a California Species of Special Concern. This owl nests in the Sierra Nevada foothills, northeastern California, and scattered locations in the Coast Range and desert region. Winter range includes the Central Valley. Long-eared owl forages in open areas near woodlands and nests and roosts within riparian woodland and live oak thickets near foraging habitat. The most suitable habitat for this species occurs on sites with an oak woodland or riparian component, though all potential sites except for Site 1 could provide nesting habitat for this species.

Yellow warbler (*Dendroica petechia*) and other nesting migratory songbirds: Yellow warbler is an uncommon to common, summer resident in the northern Sierra Nevada. It primarily breeds in riparian woodlands up to 8,000 feet, but is also known to breed in montane chaparral, open ponderosa pine and mixed conifer habitats with substantial amounts of shrub cover. During migration, this species is found in a variety of forest and woodland habitats. Nests consist of an open cup placed approximately 2 to 16 feet above the ground in a deciduous tree or shrub. Breeding generally takes place from mid-April to early-August with peak activity occurring in June. Incubation is approximately 11 days. Young

fledge at about 9 to 12 days following hatching. Young yellow warblers breed the following year after hatching.

The CNDDDB documents one occurrence of yellow warbler approximately 7 miles southwest of the Penn Valley site cluster. Riparian corridors on Sites 3, 7, 8, 10, 13, and 17 provide suitable nesting habitat for this species, and it is considered likely that yellow warbler nesting could occur on these sites.

Riparian, woodland, grassland, and chaparral habitats occurring on the project sites could provide suitable nesting habitat for many species of migratory bird species afforded protection under the Migratory Bird Treaty Act (MBTA), including grasshopper sparrows and other species.

Raptors: While no listed species of raptor is considered likely to occur on any of the project sites, large trees on, or adjacent to, all eighteen of the sites could be used for nesting by raptors, including common species such as red-tailed hawk and red-shouldered hawk, and raptors designated as California Species of Special Concern, such as sharp-shinned hawk and Cooper's Hawk. All raptors are protected under the Migratory Bird Treaty Act and by the California Fish and Game Code.

4.4.2 REGULATORY SETTING

FEDERAL FRAMEWORK

Federal Endangered Species Act

The FESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service. Section 9 of the FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 USC 1538). Under Section 7 of the FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to another authorized activity provided the action will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits to private parties provided a habitat conservation plan is developed.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989) (MBTA) regulates and prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 CFR §10.13, including migratory birds of prey (raptors). This international treaty for the conservation and management of bird species that migrate through more than one country is enforced in the United States by the USFWS. The MBTA is intended to protect migratory birds, any of their parts, eggs and nests from activities such as hunting, pursuing, capturing, killing, selling and shipping. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513 and 3503.5 of the CDFG Code. Specifically, Section 3513 of the California Fish and Game Code states that it is unlawful to take or possess any migratory

non-game bird as designated in the MBTA. This provides the CDFW with enforcement authority for project-related impacts that would result in the take of bird species protected under the MBTA.

Federal Clean Water Act

The Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the USACE. The definition of waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (U.S. EPA) also has authority over wetlands and may override a USACE permit.

Substantial impacts on wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

STATE FRAMEWORK

California Endangered Species Act

The CESA generally parallels the main provisions of the FESA, but unlike its federal counterpart, the CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

Fully Protected Species

The State of California first began to designate species as "Fully Protected" prior to the creation of the CESA and the FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians, reptiles, birds and mammals. Most fully protected species have since been listed as threatened or endangered under the CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time, except as allowed under the provisions of an incidental take permit authorized by CDFW.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code Sections 1900-1913) was created with the intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA is administered by the CDFW. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. The CESA provides further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

California Streambed Alteration Notification/Agreement

Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Application be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFW reviews the proposed actions and, if necessary, submits a proposal for measures to protect affected fish and wildlife resources to the developer. The final proposal that is mutually agreed upon by the CDFW and the developer is the Streambed Alteration Agreement. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the Clean Water Act. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne) imposes stringent controls on any discharges into the “waters of the state” (California Water Code § 13000, et seq.). Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code § 13050(e)). Pursuant to Porter-Cologne, the State Water Resources Control Board (SWRCB) has the ultimate authority over state water rights and water quality policy. However, Porter-Cologne also establishes nine RWQCBs to oversee water quality at the local/regional level. Under Porter-Cologne, the state retains authority to regulate discharges of waste into any waters of the state, regardless of whether the USACE has concurrent jurisdiction under Section 404 of the CWA. This applies specifically to isolated wetlands considered non-jurisdictional by the USACE.

LOCAL FRAMEWORK

Nevada County 2012 General Plan

The County of Nevada 2012 General Plan (2012 General Plan) includes a Wildlife and Vegetation Element, which contains several goals, objectives and policies designed to preserve and protect biological resources within the County.

- | | |
|----------------|--|
| Goal 13.1 | Identify and manage significant areas to achieve sustainable habitat. |
| Objective 13.1 | Discourage intrusion and encroachment by incompatible land uses in significant and sensitive habitats. |
| Policy 13.1 | Where significant environmental features, as defined in Policy 1.17, are identified during review of projects, the County shall require all portions of the project site that contain or influence |

said areas to be retained as non-disturbance open space through clustered development on suitable portions of the project site, or other means where mandatory clustering cannot be achieved.

The intent and emphasis of such open space designation and non-disturbance is to promote continued viability of contiguous or inter-dependent habitats by avoiding fragmentation of existing habitat areas and preserving movement corridors between related habitats. Vegetation management for the benefit of habitat preservation or restoration shall be considered consistent with the intent of this policy.

Policy 13.2

As part of the Comprehensive Site Development Standards, include standards to minimize removal of existing vegetation and require installation and long-term maintenance of landscaping setbacks and buffer areas. These standards shall be applicable to all discretionary projects and to all ministerial projects other than a single-family residence located on an individual lot. Tree removal may be allowed where necessary to comply with public right-of-way development or dedication, or development of required site access and public utilities. Individual trees or groups of trees shall be protected during construction to prevent damage to the trees and their root systems. Vegetation in proximity to structures shall conform to applicable fire protection standards.

Policy 13.2A

Project review standards shall include a requirement to conduct a site-specific biological inventory to determine the presence of special status species or habitat for such species that may be affected by a proposed project. The results of the biological inventory shall be used as the basis for establishing land use siting and design tools required to achieve the objective of no net loss of habitat function or value for special status species.

Where a Habitat Management Plan is deemed appropriate, the Plan shall be prepared to comply with the requirements of the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). The plan shall provide the background data, impact analysis, and mitigation programs necessary to obtain a FESA Section 10(a) and CESA Section 2081 permit authorizing incidental take of federal and state listed threatened and endangered species that occur in areas proposed for future development. Prior to implementation of an adopted Habitat Management Plan, project developers proposing the development of a project that would impact a federal or state listed species, or a species that is proposed for listing, shall be individually responsible for obtaining federal and state incidental take permits on a project-by-project basis.

Policy 13.2B

Development projects which have the potential to remove natural riparian or wetland habitat of 1 acre or more shall not be permitted unless:

- a. No suitable alternative site or design exists for the land use;
- b. There is no degradation of the habitat or reduction in the numbers of any rare, threatened, or endangered plant or animal species as a result of the project;
- c. Habitat of superior quantity and superior or comparable quality will be created or restored to compensate for the loss; and
- d. The project conforms with regulations and guidelines of the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Game, and other relevant agencies.

Policy 13.3

As part of the Comprehensive Site Development Standards, require the maximum feasible use of drought tolerant native plant species for landscaping of all new multi-family residential, commercial, industrial, and public projects. Invasive, non-native plants, as determined by a landscape architect or other similar expert, that may displace native vegetation on adjoining undeveloped lands shall not be used. Landscaping with native trees and shrubs shall be encouraged to provide suitable habitat for native wildlife, particularly in proposed open space uses of future development.

Policy 13.4

Encourage long-term sustainability and maintenance of landscaped areas.

Policy 13.4A

No net loss of habitat functions or values shall be caused by development where rare and endangered species and wetlands of over 1 acre, in aggregate, are identified during the review of proposed projects. No net loss shall be achieved through avoidance of the resource, or through creation or restoration of habitat of superior or comparable quality, in accordance with guidelines of the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Policy 13.4B

Habitat that is required to be protected, restored, or created as mitigation for a project's impacts shall be monitored and maintained in accord with a County-approved Habitat Management Plan.

Policy 13.4C

The land use designations and associated acreages identified on the proposed General Plan land use maps for Special Development Areas should be modified as necessary at the Specific Plan stage to protect sensitive natural communities and other important biotic resources.

Policy 13.4D

The County shall prepare and implement a Habitat Management Plan for rare and endangered species and wetlands habitat while allowing the preparation of individual project habitat management plans as an alternative, including an offsite ecological reserve.

- Policy 13.4E The County shall investigate establishing interagency agreements with adjoining counties where new developments could impact significant natural resource areas shared by adjoining counties. The agreements shall require notification of development projects within one mile of the County's borders and provide for review and comment by affected counties.
- Policy 13.4H Non-development buffers shall be maintained adjacent to perennial stream corridors through the use of clustering, the designation of a Planned Development, or the implementation of other siting and design tools. Buffers shall be sufficient in size to protect the stream corridor for movement, as well as provide some adjacent upland habitat for foraging.
- Objective 13.2 Minimize impacts to corridors to ensure movement of wildlife.
- Objective 13.3 Provide for the integrity and continuity of wildlife environments.
- Objective 13.6 Discourage significant adverse environmental impacts of land development, agricultural, forest and mining activities on important and sensitive habitats.
- Objective 13.7 Identify and preserve heritage and landmark trees and groves where appropriate.
- Policy 13.8 As part of the Comprehensive Site Development Standards, include measures applicable to all discretionary and ministerial projects to minimize disturbance of heritage and landmark trees and groves. These measures shall include, but are not limited to, requirements for on-site vegetation inventories and mandatory clustering of development in areas likely to support such vegetation or habitat.
- Policy 13.9 Development in the vicinity of significant oak groves of all oak species shall be designed and sited to maximize the long-term preservation of the trees and the integrity of their natural setting. The County shall adopt a regulation to protect native heritage oak trees and significant oak groves. All native oak tree species with a trunk diameter of 36 inches or greater shall be protected.

Nevada County Comprehensive Site Development Standards

As part of the County's Zoning Ordinance, Nevada County has adopted Comprehensive Site Development Standards, which include requirements for protection of biological resources. These standards identify avoidance of impacts to natural resources as the preferred standard, and provide that where avoidance is infeasible, impacts should be minimized "in a reasonable fashion that strikes a balance between allowing development of the project site and protecting the resource or avoiding the constraint." Compensation for an impact may be permitted when the County determines that both avoidance and minimization are infeasible. Further, where minimization or compensation is necessary, preparation and implementation of a County-approved Management Plan may be required.

Nevada County Tree Preservation and Protection Ordinance

Section L-II 4.3.15 of the Nevada County Zoning Ordinance requires projects to minimize impacts to trees, and to maximize the long-term preservation of trees in their natural setting. The ordinance calls for avoidance of impacts to Landmark Trees or Landmark Groves. Landmark Trees are defined as any oak with a dbh of at least 36 inches, or any tree whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal governments. Landmark Groves are defined as hardwood tree groves with at least 33 percent canopy closure, or groves whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal government.

The Nevada County Code discourages removal of Landmark Trees or trees within Landmark Groves and requires that a Management Plan be prepared to identify impacts to Landmark Trees or Groves and specify measures that would avoid or reduce such impacts. The Code further specifies that a Tree Protection Plan be prepared to identify measures for the protection of designated trees or groves that will remain onsite following improvements.

Nevada County Watercourse, Wetland and Riparian Ordinance

Section L-II 4.3.17 of the Nevada County Zoning Ordinance outlines the standards for preserving the integrity and minimizing disruption to watersheds and watercourses. A project shall be approved only when the project is not within the following non-disturbance buffers:

1. For all applicable projects, the developer shall have a Biological Inventory prepared by a qualified biologist, to determine whether the habitat for the defined resource, or the resource itself may be affected by a proposed project.
2. Within 100' of the high water mark of perennial streams and watercourses.
3. Within 50' from the high water mark of intermittent watercourses.
4. Within 100' of all wetlands and riparian areas.
5. Within 100' of the canal water surface on the uphill side of the canal; and within 20' of the water surface on the downhill side of the canal.
6. A project shall be approved only when it is determined by the Planning Agency that it will not adversely affect any wetlands over one acre, or riparian areas, and that it will result in no net loss of habitat functions or values of the wetlands or riparian area.
7. Project developers shall obtain appropriate authorizations from the U.S. Fish and Wildlife Service, State Department of Fish and Wildlife, and U.S. Army Corps of Engineers prior to project approval. Any provisions to avoid, mitigate, or compensate for impacts to the wetlands or riparian areas contained in such authorizations shall become conditions of project approval.
8. If the above standards effectively preclude development of the project or a revised project, or adversely affects another environmentally sensitive resource, a Management Plan, prepared by a qualified biologist or botanist, shall be prepared that avoids or minimizes impacts to the resource.

An alternative is the on-site or off-site creation, restoration, replacement, enhancement, or preservation of wetlands or riparian areas. This alternative may be preferred where the remaining protected wetlands or riparian areas are small,

isolated, and of low habitat value. Such areas shall take into account both site location and wetland or riparian type.

The following wetland or riparian area types shall be allowed as mitigation in descending order of general acceptability:

- a. In kind, On-site
- b. In kind, Off-site
- c. Out-of-kind, On-site
- d. Out-of-kind, Off-site

Such wetlands or riparian areas shall be maintained in perpetuity in order to compensate for the permanent effect of the project through recordation of a restrictive document. Such wetlands or riparian areas shall ensure full replacement of wetland or riparian areas lost at a minimum of not less than a 2:1 ratio.

Mitigation can involve the purchase of compensatory habitat acreage within Nevada County of comparable or superior quality within a qualified wetland or riparian area mitigation banking site in Nevada County ensuring full replacement consistent with the above standard. The bank developer shall provide assurance to the County that the created wetlands or riparian areas are permanently protected and maintained.

These standards shall not apply to open air structures, including docks piers, boat hoists and canopies, as defined in Section 4.2.5.G.5.

City of Grass Valley 2020 General Plan

The City of Grass Valley 2020 General Plan (2020 General Plan) includes several goals, objectives, and policies with respect to biological resources. The following General Plan provisions would apply only to those sites that would require annexation into the City of Grass Valley prior to development:

Land Use Element

Policy 25-LU Utilize clustering and other land use techniques to protect environmentally sensitive resources, such as heritage trees and wetlands.

Circulation Element

Goal 3-C Provide for the safe and efficient movement of people and goods in a manner that respects existing neighborhoods and the natural environment.

Objective 10-C Protection of stream courses, riparian areas and other natural features.

Policy 15-C Avoid environmentally sensitive areas, to the extent feasible, when expanding the roadway network.

Conservation/Open Space Element

Goal 1-COS Provide a balance between development and the natural environment, protecting and properly utilizing Grass Valley's

	sensitive environmental areas/features, natural resources and open space lands.
Objective 1-COS	Inventory of sensitive environmental areas and features.
Objective 3-COS	Protection of rare and endangered animals and plants.
Objective 4-COS	Reduction of urban development impacts on native vegetation, wildlife and topography.
Objective 5-COS	Encouragement of wildlife through habitat protection.
Objective 6-COS	Assurance of appropriate resource conservation and environmental protection measures as prerequisites to development.
Goal 2-COS	Protect, enhance and restore hydrologic features, including stream corridors, floodplains, wetlands, and riparian zones.
Goal 3-COS	Ensure the protection of Grass Valley's trees and forested areas.
Objective 6-COS	Assurance of appropriate resource conservation and environmental protection measures as prerequisites to development.
Objective 9-COS	Identification of heritage trees for special recognition and protection.
Objective 10-COS	Identification of significant groves and groupings of trees for permanent open space designation.
Policy 2-COS	Establish an active program of land/development rights acquisition in order to protect sensitive environmental areas and features.
Policy 3-COS	Encourage clustering, density averaging, and other techniques in larger-scale new developments, as means of preserving open space and natural systems.
Policy 4-COS	Establish standards for inclusion and management of permanent open space in new developments.
Policy 13-COS	Assist property owners wishing to preserve and protect heritage trees and significant groves.

Grass Valley Tree Preservation and Protection Ordinance

The City of Grass Valley (City) Tree Preservation and Protection Ordinance (Chapter 12.36 of the City of Grass Valley Development Code) establishes standards for the maintenance, management, and preservation of native and indigenous trees. Trees protected under this ordinance are defined under four categories: Trees, Street Trees, Significant Trees and Heritage Trees. Trees include any plant with a woody trunk eight inches or more in diameter at breast height (dbh). Significant Trees are those with a trunk eighteen inches dbh. Heritage Trees are those trees listed on the City Heritage Tree List, adopted because of distinct or unique qualities. Street Trees are those that occur within a public right-of-way. The City's development approval process also requires specific measures for tree protection as established within the Tree Preservation and Protection Ordinance (Chapter 12.36, Section 12.36.200).

For construction-related tree removal, a tree removal permit is required prior to the start of any work. The permit application requires review and approval by the Planning Department. A tree protection plan, including proposed mitigation for trees to be removed, needs to be approved by the Tree Permit Administrator prior to work, and construction-related tree removal permits are required prior to the issuance of a grading or building permit. Heritage Trees must be removed from the Heritage Tree List by formal action of the City Council prior to issuance of a tree removal permit. No Heritage Trees may be removed while still on the list. Activities associated with the establishment of a public park are exempt from permitting requirements. However, the Parks Maintenance Division must submit an annual plan to the Tree Permit Administrator outlining proposed activities, and reporting activities undertaken the previous year. Trees less than eight inches dbh, except for Street Trees planted within the public right-of-way at the direction of the City or as a required condition for landscaping or planning actions, are exempt from permitting. Trees less than 18 inches on public lands are exempt, except for Significant Trees and Street Trees within a public right-of-way. For the purposes of wildlife fuel management, trees within Wildfire Lands, as defined on existing maps, are exempt from permitting requirements, as are dead trees. Activities needed for safety reasons, as defined by the California Public Utilities Commission, are exempt, with numerous provisions. Lastly, nuisance trees, as recognized by the Tree Permit Administrator, may be removed. These provisions would apply only to those sites that would require annexation into the City of Grass Valley prior to development.

City of Grass Valley Development Code

The City of Grass Valley Development Code (Title 17 of Grass Valley Municipal Code) includes several standards and requirements with respect to resource management issues, including the following:

Article 5	Resource Management – Chapter 17.50 (creek and riparian resource protection).
Article 6	Site Development Regulations – Chapter 17.60 (grading permit requirements and procedures and Chapter 17.62 (grading, erosion, and sediment control standards).
Article 7	Planning Permit Procedures – Chapter 17.70 (permit applications filings and processing).
Article 8	Subdivisions - Chapter 17.80 (subdivision ordinance applicability and administration) and Chapter 17.86 (dedication and exactions of land).

4.4.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would have significant impacts on biological resources if it would:

- Have an adverse effect, either directly or through habitat modifications, on any species listed as endangered, threatened, or proposed or critical habitat for these species

- 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 CDFW or USFWS
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources such as tree preservation policy or ordinances
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state HCP

AREAS OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or are not reasonably foreseeable:

- Conflict with any local policies or ordinances protecting biological resources such as tree preservation policy or ordinances.

Standards for maintenance, management and preservation of native and indigenous trees are established in Section L-II 4.3.15 of the Nevada County Zoning Ordinance (Tree Preservation and Protection Ordinance). The measures prescribed by the Nevada County Tree Preservation and Protection Ordinance, including preparation of a Management Plan for impacts to Landmark Trees and Landmark Groves and for portions of those habitat preserved onsite, would be implemented as part of the County's ministerial permitting process.

In addition, for those sites that require annexation into the City of Grass Valley prior to development, the requirements of the City of Grass Valley Tree Preservation and Protection Ordinance (Chapter 12.36) would apply and would be implemented as part of the City's ministerial permitting process.

Future development applications would require a tree removal permit from the County or City. Future development for sites within the RH Combining District would be required to demonstrate compliance with all applicable local policies or ordinances associated with biological resources, including Section L-II 4.3.15 of the Nevada County Zoning Ordinance and the City of Grass Valley Tree Preservation and Protection Ordinance. As such, there would be no impact associated with a conflict with these adopted ordinances.

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state HCP.

There are no known HCPs, Natural Community Conservation Plans, or other approved local, regional, or state HCPs that apply to the project.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

While riparian corridors that occur on some of the sites provide important wildlife movement habitat, none of the 18 rezone sites support established migratory corridors or wildlife nursery sites.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Special Status Species

4.4-1 ***THE PROPOSED PROJECT HAS THE POTENTIAL TO ADVERSELY AFFECT SPECIAL-STATUS PLANT SPECIES.***

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Future development on each of the 18 rezone sites would result in direct and indirect impacts to vegetation as a result of site preparation, grading, and construction. This disturbance could adversely affect special-status plant species if they occur within the disturbance area.

No special-status plant species were observed during surveys conducted on the RH Combining District sites, though there is potential for several species of rare plants to occur within specific habitats found on some of the sites. Several of the species with potential to occur on the sites require wetland or riparian habitats, which occur on several of the sites, as shown in Table 4.4-2. Because the timeframe in which these sites could be developed is unknown, conditions on the site could change in which special-status plant species could establish on the project site. Since there is the potential for special-status plant species to be present on the project sites, impacts to special-status plant species resulting from site development are considered potentially significant. Plant communities for each site were surveyed and mapped in Table 4.4-1 and Figures 4.4-1 through 4.4-7. In order to estimate the potential impact to habitats, a proposed development footprint was created. The development footprints were overlaid on the mapped habitats and the impact to each habitat is estimated below in Table 4.4-4.

**Table 4.4-4
 Potential Impacts to Plant Communities
 within the Project Rezone Sites**

Site	Annual Grassland (Acres)	Valley Oak Woodland (Acres)	Blue Oak Woodland (Acres)	Montane Hardwood (Acres)	Sierran Mixed Conifer (Acres)	Foothill Riparian (Acres)	Mixed Chaparral (Acres)	Blue Oak-Foothill Pine (Acres)
1	-	-	-	-	-	-	-	-
2	-	-	-	5.78	8.11	-	-	-
3	-	-	-	.03	8.01	0.07	-	-
4	-	-	-	-	11.48	-	-	-
5	-	-	-	-	5.62	-	-	-
6	-	-	-	-	10.06	-	-	-
7	-	-	-	-	4.33	0.13	-	-
8	-	-	-	-	3.57	0.15	-	-
9	-	-	-	-	4.85	-	-	-

Table 4.4-4, continued

Site	Annual Grassland (Acres)	Valley Oak Woodland (Acres)	Blue Oak Woodland (Acres)	Montane Hardwood (Acres)	Sierran Mixed Conifer (Acres)	Foothill Riparian (Acres)	Mixed Chaparral (Acres)	Blue Oak-Foothill Pine (Acres)
10	4.18	-	-	-	-	-	-	-
11	2.31	-	-	-	-	-	-	-
12	2.82	-	-	-	-	-	-	-
13	7.33	2.97	-	-	1.29	-	-	-
14	-	-	1.27	-	-	-	-	-
15	-	-	-	3.86	-	-	-	-
16	-	-	-	5.25	-	-	1.68	11.93
17	-	-	-	1.00	-	0.39	-	-
18	-	-	-	4.82	3.80	-	-	-
Total	16.64	2.97	1.27	14.93	61.12	0.74	1.68	11.93

To protect sensitive wetland and riparian habitats on the sites, an Environmentally Sensitive Areas (ESA) designation was placed on sensitive habitat types, such as wetlands and riparian areas, occurring on each of the sites. The ESAs were established to identify areas that would remain outside of the development disturbance area to avoid impacts to sensitive habitats or rare plant species. ESA designations were placed on Sites 2, 3, 7, 8, 9, 10, 11, 12, 13, 17, and 18. Development that avoids ESAs would have no impact on sensitive habitats and plant species with potential to occur within these areas. Mitigation Measure 4.4-1a requires the designation of ESAs on those sites with sensitive habitat. However, there are some sites where encroachment into sensitive habitats is necessary to gain access to or through the site. In such cases in which impacts would be necessary within designated sensitive habitat areas, Mitigation Measure 4.4-1a requires the preparation of a management plan that identifies how impacts would be minimized and mitigated.

Mitigation Measure 4.4-1b requires that special-status plant surveys are conducted prior to any site disturbance and would ensure that special-status plant species are identified and that a management plan is prepared to avoid or minimize impacts to any special-status plant discovered during required surveys.

Mitigation Measure 4.4-1c requires that all agency permits associated with impacts to special-status plant species be obtained and that the developer adhere to and implement all conditions of permit issuance. With implementation of these mitigation measures, impacts to special-status plant species, including listed species, would remain less than significant.

Mitigation Measures:

The following mitigation measure applies to Sites 2, 3, 7 through 13, 17, and 18.

- 4.4-1a Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 2, 3, 7, 8 and 9):

Designate wetland and riparian habitat areas an Environmentally Sensitive Area (ESA) consistent with the ESA exhibits shown in Section 3.0 of this EIR on all Site Plans, grading plans, or any permit authorizing construction for a property within the RH Combining District. No construction shall be permitted within the ESAs, unless as part of a

management plan consistent with Nevada County Land Use and Development Code Section L-II 4.3.17, is approved by the County Planning Department. For projects located within the Grass Valley SOI, a Wetland and Riparian Mitigation Monitoring Program shall be approved by the City Planning Department. The boundaries of the ESAs shall be clearly shown on all final plans and specifications.

The following mitigation measures apply to all sites.

4.4-1b Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):

- i) Conduct focused special-status plant surveys within and adjacent to (within 100 feet, where appropriate) the proposed impact area, which will include impacts from project construction (temporary construction zone and staging areas) or by post-construction fuel management. Surveys shall be conducted during the appropriate time of year to determine the presence of special-status plant species that have been identified as potentially occurring on the project site. Surveys shall be conducted in accordance with the Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000). Field surveys shall be scheduled to coincide with known flowering periods (for the specific species) and/or during periods of physiological development that are necessary to identify the plant species of concern. According to the known blooming periods, surveys would need to be conducted in May or June and again in July or August; however, unusual weather may affect blooming periods so reference sites should be checked.

It is important for the required plant survey to be scheduled in time to allow for salvage and transplantation, if required, prior to initiation of project grading. Specifically, if construction is to be initiated during or prior to September in any year, the survey will need to be completed during the previous calendar year in order to satisfy the mitigation measure requirements. Project approval conditions should include language that alerts project proponents to this circumstance to avoid costly construction delays.

The survey report, including a description of methods, map of area surveyed, results, and a complete list of all plant taxa found during the survey, shall be provided to County staff prior to initiation of any grading or equipment operation. If no occurrences of special-status species are found, no further mitigation is required.

- ii) If any federally or state-listed, CNPS Rare Plant Rank 1 or 2 plant species are found within or adjacent to (within 100 feet) the proposed impact area during the surveys, the CDFW (in the case of state-only listed plants) and/or USFWS (in the case of federally listed plants), as applicable, shall be notified regarding the status and location of the plant and the necessary approval and/or permits obtained. These plant species shall be avoided to the extent feasible. Avoidance measures shall

include fencing of the population(s) before construction, exclusion of project activities from the fenced-off areas (no ingress of personnel or equipment), and construction monitoring by a qualified biologist. Avoidance areas shall be identified on project plans. If these plants cannot be avoided completely, the following mitigation measures shall be applied:

- Before the approval of grading plans or any groundbreaking activity within the project site, the project developer shall submit a mitigation plan concurrently to the CDFW (in the case of state-only listed plants) and/or USFWS (in the case of federally listed plants) for review and comment, and the developer may consult with these entities before approval of the plan. The plan shall include mitigation measures for the population(s) to be directly affected. Possible mitigation for the population(s) that would be removed during construction of the project includes implementation of a program to transplant, salvage, cultivate, or re-establish the species at suitable sites. The mitigation ratio for directly impacted plant species shall be at a minimum ratio of 2:1. The actual level of mitigation may vary depending on the sensitivity of the species (its rarity or endangerment status), its prevalence in the area, and the current state of knowledge about overall population trends and threats to its survival. Alternatively, replacement credits may be purchased by the project developer at an approved mitigation bank should such credits be available.
- Transplantation of existing special-status plants could be undertaken to move the plant(s) to a suitable habitat location, either within the project site or at an off-site preserve to be protected in perpetuity. The off-site preserve shall include similar soil, climate, and associated plant species as are currently present at the project site. This location will be protected in perpetuity under a conservation easement and managed appropriately to ensure the transplantation is a success. Please note, however, that for some species transplantation may not be a successful or effective method for conservation, as requirements for some species are highly specialized and not clearly understood. Thus, transplantation shall only be used where success can be assured. Avoidance shall be required for special-status plant species that cannot be transplanted, salvaged or cultivated.
- If on-site preservation is determined to be feasible, a conservation easement shall be placed over project open space areas to preserve the mitigation areas in perpetuity.

This mitigation measure applies to all sites.

- 4.4-1c Appropriate Permits: Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall demonstrate, to the satisfaction of the Director of the County Planning Department, that the project developer has obtained all permits and authorizations required by federal, state,

regional and local jurisdictions to proceed with their development proposals. These could include incidental take permits that set forth specific measures to minimize, avoid, or fully mitigate impacts to listed species. This should also include, for sites with mapped ESAs, a demonstration of how the development footprint will avoid all ESAs on the project site. Measures could also include limiting operating periods such as prohibiting grading during the wet season (October to May), requiring 100 foot buffers to disturbance and fencing for sensitive areas, design revisions, and species relocation by soil salvage, seed collection, or other means approved by the agencies with jurisdiction. Prior to development of any individual site, additional species could be listed or designated as special-status, and the future developers of the Housing Element Rezone Implementation Program project sites shall comply with any new requirements of the USFWS or CDFW for such species, as may be imposed through subsequent consultation, if necessary.

Level of Significance After Mitigation: Less Than Significant Impact.

4.4-2 THE PROPOSED PROJECT HAS THE POTENTIAL TO ADVERSELY AFFECT SPECIAL-STATUS WILDLIFE SPECIES.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Seven special-status wildlife species are considered to have potential to occur on the 18 rezone sites and could be adversely affected by site development.

Valley Elderberry Longhorn Beetle (VELB): Elderberry shrubs were observed on Sites 10 and 13 near Squirrel Creek and could occur on some other sites, particularly those with a riparian component. Sites in the Grass Valley area are near the upper elevation range of this species of beetle, nevertheless, there is some potential for this species to occur. Impacts to the unique habitat of VELB or direct impacts to VELB resulting from site development would constitute a take under the Federal Endangered Species Act and would be a significant impact.

To ensure that no adverse impacts to VELB would occur, Mitigation Measure 4.4-1a requires that all riparian areas, which are suitable for elderberry shrub habitat, be mapped and recorded as Environmentally Sensitive Areas. Mitigation Measure 4.4-2a requires that surveys for elderberry shrubs be carried out prior to site disturbance and that shrubs with stems of at least one inch diameter be preserved or that an incidental take permit authorization be obtained for VELB impacts and that the developer complies with all measures associated with the incidental take authorization and the biological opinion that would serve to mitigate impacts to VELB¹.

Raptors and Songbirds: Each of the 18 sites includes some potential nesting habitat for raptors and songbirds. Construction activities could disturb nesting birds or their young, which would result in a significant impact. Mitigation Measure 4.4-2b requires completion of a pre-construction survey to locate nests and implementation of best practices consistent with state and federal regulations to minimize adverse effects at nest sites. This would

¹ Note: The USFWS formally proposed to de-list VELB in October 2012 following a lawsuit brought against the USFWS by a coalition of flood control agencies, reclamation districts, and farm bureaus. The proposed de-listing is currently under public review. De-listing of the species could result in new guidance regarding impacts to VELB and the elderberry host plant.

ensure that impacts to special-status birds, including raptors and songbirds, would remain less than significant.

Aquatic Habitat Dependent Species: Any disturbance to aquatic habitats and nearby upland habitat associated with Ragsdale Creek, Squirrel Creek, or Wolf Creek could result in impacts to Foothill yellow-legged frog or western pond turtle. Impacts to these California Species of Special Concern or their habitat would be a significant impact of the site development. Ragsdale Creek, Squirrel Creek, and tributaries to Wolf Creek and other waterways within the RH Combining District sites provide potential habitat for other aquatic species. The riparian vegetation associated with these waterways is considered sensitive habitat as it provides important habitat values including vegetative cover and a natural corridor for movement by many common species of wildlife. To ensure that impacts to waterways and riparian corridors remain less than significant, Mitigation Measure 4.4-1a would require all riparian areas be mapped and recorded as an Environmentally Sensitive Area. Future construction on any of the project sites shall avoid all ESAs, unless a Management Plan that specifies impact mitigation measures, including compensatory or replacement habitat as required by resource agencies with jurisdiction over the resource, is approved by the County.

Additionally, Mitigation Measure 4.4-1a requires that site development comply with Section 4.3.17 of the Nevada County Land Use Development Code, which specifies that non-disturbance buffers be maintained to all waterways, riparian areas, and wetlands except as approved according to a Management Plan and when a finding can be made by the Planning Department that no adverse effects to wetlands over one acre or to riparian areas would occur, or that impacts are fully mitigated and appropriate permits are obtained from all agencies with jurisdiction. This would ensure that no net loss of habitat values or functions of creeks, streams, or wetlands would occur with the development of the project sites, and impacts to aquatic habitat dependent species are less than significant.

Where construction within the ESAs is unavoidable, Mitigation Measure 4.4-2c outlines the proper steps that should be taken to protect special-status wildlife species.

Mitigation Measures:

The following mitigation measure applies to Sites 2 through 18:

Valley Elderberry Long Beetle

4.4-2a Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 3-9):

Conduct surveys for the elderberry shrub VELB host plant prior to site disturbance. Prior to development, any elderberry shrubs measuring 1.0 inch or greater in diameter shall be mapped and clearly marked in the field. At all times during development of the project, developers shall comply with the conservation guidelines set forth in USFWS's *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (July 9, 1999), which generally require a buffer of 100 feet around each elderberry shrub with stems measuring 1.0 inch or greater in diameter at ground level. If encroachments into the ESA are required, consultation with USFWS shall be required as contemplated by USFWS 1999 Guidelines. Mitigation for impacts on VELB habitat shall be determined via

consultation with USFWS pursuant to Section 7, Section 10, or USFWS 1999 Guidelines, as applicable, and may include onsite mitigation planting or the purchase of mitigation credits from an approved conservation bank. To avoid adverse effects on VELB, Mitigation Measures 4.4-1a, and 4.4-1c shall be implemented to ensure avoidance of elderberry shrubs and appropriate protection for this species. If necessary, agency-approved mitigation developed through the permitting process would establish the appropriate and required mitigation for impacts to this species. Note: If VELB is de-listed by the USFWS or if there is any change in the listing status of this species, the USFWS guidance in effect at the time of site development shall be followed for impacts to VELB and elderberry shrubs. Additionally, if development does not occur within 5 years on any of the proposed project sites, additional surveys would be required upon development to reassess the location of the elderberry shrub VELB.

The following mitigation measure applies to all sites:

- 4.4 -2b Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):

Conduct Pre-construction Surveys for Nesting Birds. The future developers within the RH Combining District shall avoid disturbance to active nests within or near disturbance areas. To avoid take of any active raptor nest or disturbance of other protected native birds, to the extent feasible, site disturbance shall be avoided from March 1 through August 31, which coincides with the typical nesting season for most common bird species in the region.

If construction, grading or other project-related activities will occur during the typical nesting season, a pre-construction nesting survey shall be conducted by a qualified wildlife biologist to determine if any raptors or protected native birds are nesting in or in the immediate vicinity of vegetation that will be removed. The survey shall be conducted within 15 days prior to the start of work from March through May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through August. If active nests are found in the work area, the biologist shall determine an appropriately sized buffer around the nest in which no work shall be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the biologist, and if necessary, in consultation with the CDFW (and USFWS as appropriate). Buffer widths shall be determined based on the nesting species and its sensitivity to disturbance. The no-work buffer zone shall be delineated by highly visible temporary construction fencing.

Monitoring of nest activity by a qualified biologist may be required if the project-related construction activity has potential to adversely affect the nest or nesting behavior of the bird. No project-related construction activity shall commence within the no-work buffer area until a qualified biologist confirms that the nest is no longer active.

This mitigation measure applies to all sites:

- 4.4-2c **Protect Special-Status Wildlife Species:** Where construction of future development projects within the RH Combining District would occur within or near known or potential habitat for special-status species, as defined the following measures shall be implemented:

Employ Approved Biological Monitors: Prior to commencement of grading for any phase of the project or portion thereof, a project biologist should be designated as an environmental monitor. The qualified biologist should be approved by the County and shall be present at clearing and grubbing stage or as mandated through the regulatory permitting process. Qualified biologists shall be responsible for pre-construction surveys, staking sensitive resources, onsite monitoring, documentation of violations and compliance, coordination with contract compliance inspectors, and post-construction documentation.

Foothill Yellow-legged Frog. Suitable breeding, aestivation, and dispersal habitat for the foothill yellow-legged frog is present along perennial waterways within several of the proposed rezone sites. If disturbance would occur within 100 feet of known or potential habitat for foothill yellow-legged frog (i.e., perennial streams), pre-construction surveys shall be conducted to determine if this species is present in the disturbance area. If surveys determine that foothill yellow-legged frogs are present, a determination shall be made in consultation with CDFW as to whether or not construction would adversely impact this species and what measures shall be implemented. Measures could include limited operating periods, BMPs to avoid habitat impacts, disturbance exclusion zones, or other measures approved by CDFW.

Western Pond Turtle. Potential basking, foraging, and dispersal habitat for the western pond turtle is present along perennial waterways within some of the RH Combining District. Where disturbance would occur within 200 feet of potential habitat for western pond turtle (i.e., near perennial streams), pre-construction surveys shall be conducted to determine whether the proposed disturbance would adversely affect this species. This determination shall be made by a qualified biologist based on the suitability of the affected habitat for this species and/or the presence or absence of this species in the affected area as determined by surveys of suitable habitat. If pond turtles are observed, a determination shall be made in consultation with CDFW as to whether or not construction will adversely impact this species and what measures shall be implemented. Measures could include limited operating periods, BMPs to avoid habitat impacts, disturbance exclusion zones, relocation, or other measures approved by CDFW.

Other Special-Status Wildlife Species. Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall demonstrate, to the satisfaction of the Director of the County Planning Department, that the site has been assessed for habitat suitability for special-status species of wildlife and that appropriate surveys have been carried out, as necessary,

and according to the protocol of state or federal agencies with jurisdiction over the special-status species under review. Should any special-status species be identified, the developer shall retain a qualified biologist to develop and oversee implementation of a management plan. Depending on the species identified, appropriate measures could include avoidance, impact minimization, relocation or other measures and must incorporate measures to satisfy regulatory requirements of agencies with jurisdiction over the species at issue (Mitigation Measure 4.4-1b). Where onsite avoidance is feasible, barrier fencing, stakes, flagging or other measures shall be implemented prior to site disturbance to ensure impacts are avoided.

Level of Significance After Mitigation: Less Than Significant Impact

Wetlands and Riparian Areas

4.4-3 THE PROPOSED PROJECT HAS THE POTENTIAL TO DIRECTLY IMPACT WETLANDS AND RIPARIAN AREAS DUE TO VEGETATION REMOVAL AND TO INDIRECTLY AFFECT WETLANDS BY ALTERING HYDROLOGY, INCREASING EROSION AND SEDIMENTATION, AND/OR ADVERSELY AFFECTING WATER QUALITY.

Level of Significance Before Mitigation: Less than Significant Impact

Impact Analysis

Wetland and riparian areas occur on several of the 18 rezone sites, as shown in Table 4.4-2. Impacts to wetland and riparian areas based on the proposed development footprints are estimated in Table 4.4-4.

Each project within the RH Combining District that affects waters of the U.S. would be required to obtain permits from the USACE in compliance with Section 404 of the Clean Water Act. Each permit would identify the mitigation requirements to ensure that the project attains the USACE “no net loss” standard. In order to obtain a permit, a developer must demonstrate that impacts have been avoided and/or minimized to the extent feasible and must commit to mitigation, which is generally required to meet a minimum ratio of 1:1 (one acre of mitigation for every acre of impact). Permits also typically include a requirement that wetlands created, restored, or preserved as a condition of the permit must be maintained in perpetuity.

Compliance with the federal Clean Water Act and associated permitting requirements would ensure that impacts to waters of the U.S. would remain less than significant. Permits from the RWQCB would also be required for impacts to waters of the State of California, and would require measures to ensure no net loss of waters of the State. Each agency would have the opportunity to add conditions of approval to their permits to ensure no net loss of the resource. Mitigation measures included in Section 4.10 (Hydrology and Water Quality) would further ensure that site development does not result in indirect impacts to wetland hydrology and function and that wetland impacts related to erosion, sedimentation, and pollution are avoided.

Additionally, Mitigation Measure 4.4-1a requires that all Environmentally Sensitive Areas, including wetland and riparian areas, be mapped on all Site Plans, grading plans, or any plan authorizing construction for a property within the RH Combining District, and avoided upon future development. If future development plans cannot avoid an ESA, an appropriate Habitat Management Plan approved by the County prior to any site disturbance would be required.

Each project within the RH Combining District that affects the bed, bank, or channel of any stream, lake, or pond and the associated riparian habitat would be required to obtain a Streambed Alteration Agreement from the CDFW and implement mitigation measures required as conditions of the agreement. Implementation of the measures included in the Streambed Alteration Agreement typically include best management practices to maintain water quality, reduce vegetation impacts, protect sensitive habitat, and restore impacted areas and / or provide habitat to compensate for loss and to ensure no net loss of habitat values.

In addition, each project within the RH Combining District that affects waters of the U.S. would be required to comply with Nevada County's Comprehensive Site Development Standards, Section L-II 4.3 of the Zoning Ordinance. LUDC Sec. L-II 4.3.17 requires that development projects be designed to provide the following non-disturbance buffers:

- 100 feet from the high water mark of perennial streams and watercourses
- 50 feet from the high water mark of intermittent watercourses
- 100 feet from all wetlands and riparian areas

Where these non-disturbance buffers preclude development of a project site, the County's Site Development Standards allow that a project may proceed under the provisions of a Management Plan prepared by a qualified biologist or botanist. The Management Plan must provide for avoidance and minimization of impacts.

It is expected that in compliance with federal and local regulations, impacts to perennial and intermittent streams would be avoided other than potential impacts associated with bridge and infrastructure crossings. Impacts resulting from bridge and infrastructure crossings would be mitigated to a less than significant level in compliance with USACE, RWQCB, and CDFW permit conditions and the Management Plan required by Nevada County.

It is expected that it may not be feasible to avoid impacts to swales, seeps, and seasonal wetlands on some sites, particularly Sites 2, 7, 8, 12, and 13. These wetlands are located in interior portions of these sites where avoidance could constrain site development. Impacts resulting from site development would be mitigated to a less than significant level in compliance with the USACE and / or RWQCB permit conditions and the Management Plan required by Nevada County.

Impacts on wetlands and riparian areas would be considered potentially significant. Implementation of Mitigation Measures 4.4-1a and 4.4-3, requiring mapping and avoidance of wetlands on all grading and construction plans, compensation for wetland and riparian impacts, and development restrictions (e.g., prescribed wetland and riparian buffers), would reduce the impact on wetlands and riparian areas to a less than significant level. Furthermore, mitigation measures identified in Section 4.10 (Hydrology and Water Quality) would ensure that site development does not result in indirect impacts to wetland hydrology.

Mitigation Measures:

The following mitigation measure applies to Sites 2, 3, 7, 8 within the Grass Valley SOI:

4.4-3a Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the Grass Valley Planning Department:

Develop and implement a Wetland and Riparian Mitigation Monitoring Program that provides measures that avoid, minimize, and compensate for damages and/or losses of wetland and riparian vegetation resulting from the future development proposals by completing the following:

- Avoidance of wetlands and riparian areas through project design.
- Maximum avoidance of wetlands and riparian areas by including fencing and using appropriate buffer zones during construction activities. Unless otherwise required through consultation with state and federal agencies, the minimum development-free setback from the top of creek bank for linear water features shall be 50 feet. For non-linear wetlands or waters of the U.S., the minimum development-free setback shall be 25 feet. Development-free shall mean building construction and grading.
- Provide measures for creek enhancement and added habitat value.
- If wetlands cannot be avoided, a minimum 1:1 replacement ratio to compensate for lost extent and functioning of wetland areas.
- Supervision and verification of the implementation of adopted measures, including provisions for an onsite Environmental Monitor (a qualified biologist approved by the City, USFWS and CDFW) during construction activities.

Unavoidable direct impacts on wetland vegetation types during construction of future development projects on Sites 2, 3, 7, and 8 shall require consultation with the appropriate jurisdiction (USACE and RWQCB) and would require a permit from these agencies. Potential impacts shall be mitigated by restoration of the affected area to pre-construction conditions, offsite compensatory mitigation, or purchase of credits in a mitigation bank, in accordance with permits issued by the USACE, RWQCB and CDFW.

The following mitigation measures apply to Sites 10 – 13, and 17:

4.4-3b Where potential wetland impacts are involved, the following mitigation measure would apply.

A formal wetland delineation shall be conducted for areas that will be permanently or temporarily impacted by the proposed project including driveway improvements where access to the site would otherwise be prohibited. If jurisdictional waters cannot be avoided, the project developer shall apply for a CWA Section 404 permit from the USACE and a Section 401 permit from the RWQCB. These permits shall be obtained prior to issuance of grading permits and implementation of the proposed project.

The project developer shall ensure that the project will result in no net loss of waters of the U.S. by providing mitigation through impact avoidance, impact minimization, and/or compensatory mitigation for the impact, as

determined in the CWA Section 404/401 permits. Mitigation must also be consistent with any permitting requirements of the CDFW Section 1602 Streambed Alteration Agreement.

Compensatory mitigation may consist of (a) obtaining credits from a mitigation bank; (b) making a payment to an in-lieu fee program that will conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities; these programs are generally administered by government agencies or nonprofit organizations that have established an agreement with the regulatory agencies to use in-lieu fee payments collected from permit developers; and/or (c) providing compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity. This last type of compensatory mitigation may be provided at or adjacent to the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The project proponent/permit applicant retains responsibility for the implementation and success of the mitigation project. Written documentation of compliance with this mitigation measure shall be provided to the County prior to construction and grading activities for the proposed project.

Level of Significance After Mitigation: Less Than Significant Impact

4.4-4 THE PROPOSED PROJECT HAS THE POTENTIAL TO INDIRECTLY IMPACT SENSITIVE AQUATIC HABITAT AS A RESULT OF EROSION, SEDIMENTATION, AND/OR CONTAMINATION.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

Aquatic habitat degradation within and adjacent to future construction areas associated with future development of the RH Combining District sites could occur due to erosion of exposed soils or contaminants associated with construction activities. Implementation of Mitigation Measure 4.4-1a, as discussed above, and Mitigation Measures 4.10-1a and 4.10-1b, as discussed in Section 4.10 (Hydrology and Water Quality), would reduce impacts resulting from erosion or contamination to a less than significant level.

Mitigation Measures:

This mitigation measure applies to Sites 2-9, 10-13, 17, and 18:

Implement Mitigation Measures 4.4-1a, 4.4-3a and 4.4-3b.

Level of Significance After Mitigation: Less Than Significant Impact.

4.4-5 THE PROPOSED PROJECT WOULD IMPACT OAK WOODLAND HABITAT

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Sites 13, 14, 15, 16, 17, and 18 contain oak woodland habitat. Development of these sites could result in impacts to up to approximately 31 acres of oak woodlands on these sites (refer to Table 4.4.1 and Figures 4.4-1 through 4.4-10). The loss of approximately 31 acres of oak woodland habitat would be a significant impact of development on some of the project sites (see Table 4.4-4) for estimated oak woodland loss per parcel. Oak woodlands on the sites qualify as Landmark Groves under the Nevada County Tree Preservation and Protection Ordinance, which discourages removal of trees within Landmark Groves and requires that a Management Plan be prepared to specify measures that would avoid or reduce impacts to Landmark Groves. Mitigation Measure 4.4-5 requires that the Management Plan specify mitigation measures for impacts to oak woodlands habitat to ensure no net loss of oak woodlands as a result of site development, and that the plan specifies measures to ensure protection of protected oak woodlands on a site during and following construction. Compliance with the Nevada County Tree Preservation and Protection Ordinance and implementation of Mitigation Measure 4.4-5 would ensure less than significant impacts to oak woodlands as a result of developing sites containing oak woodland communities.

**Table 4.4-5
 Oak Woodland Habitat Impacts**

Site	Habitat Woodland Type	Total Acres of Oak Woodland	Acres of Impact
13	Valley Oak Woodland	6.52	2.97
14	Blue Oak Woodland	5.13	1.27
15	Montane Hardwood	3.86	3.86
16	Blue Oak-Foothill Pine	11.93	11.93
	Montane Hardwood	5.25	5.25
17	Montane Hardwood	1.0	4.3
18	Montane Hardwood	4.82	4.82
TOTAL		38.51	31.06

Mitigation Measures:

The following Mitigation Measure applies to Sites 13 through 18:

- 4.4-5 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall prepare an oak woodland Management Plan (Management Plan) as required under the Nevada County Tree Preservation and Protection Ordinance. The Management Plan shall specify measures to mitigate for the loss of oak woodland habitat values as a result of site development to ensure no net loss of oak woodland habitat. Measures could include preservation of on-site oak woodlands in a conservation easement, purchase and preservation of off-site oak woodlands, on- or off-site enhancement of degraded oak woodlands, or by paying in-lieu fees into a County-approved fund used to purchase and preserve comparable oak woodland communities in the region.

The Management Plan shall also include measures to protect trees during construction and following site development. Measures could include specifications for protective fencing and construction buffers, project design modifications, woodland maintenance prescriptions for fuel reduction, forest health, and habitat improvements, and specifications for appropriate uses of the woodland area following site development. The plan shall identify financial responsibility and funding sources for all measures.

Level of Significance After Mitigation: Less Than Significant Impact.

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4.5 AIR QUALITY

This section evaluates short- and long-term air quality impacts associated with buildout of the Nevada County Housing Element Rezone Implementation Program. Mitigation measures are also recommended to avoid or lessen the project's impacts. Information in this section is based on methodologies and assumptions recommended by the Northern Sierra Air Quality Management District (NSAQMD). Air quality modeling data is included in Appendix D (Air Quality Data).

4.5.1 ENVIRONMENTAL SETTING

CLIMATE

Nevada County (County) is located in the Mountain Counties Air Basin (Basin), which lies in the northeastern region of the State of California. The Basin is bounded to the east by the Sierra Nevada Mountain Range, to the west by the Coastal Mountain Range and to the south by the Tehachapi Mountains. The project area is located on the western slope of the Sierra Nevada Mountains in hilly, forested terrain.

Nevada County exhibits a large variation in terrain and consequently experiences variations in climate, both of which affect air quality. The eastern portions of the County include steeper slopes of the Sierra Nevada Range and relatively shallow river canyons. The warmest areas within the County are found at the lower elevations along the west side of the County, while the coldest average temperatures are found at the highest elevations.

WIND

The prevailing wind direction over the County is westerly. However, the terrain of the area has a great influence on local winds, which results in a wide variability in wind direction. Afternoon winds are generally channeled up-canyon, while nighttime winds generally flow down-canyon. Winds are, in general, stronger in spring and summer and lower in fall and winter. Periods of calm winds and clear skies in fall and winter often result in strong, ground-based inversions forming in mountain valleys. These layers of very stable air restrict the dispersal of pollutants, trapping these pollutants near the ground, representing the worst conditions for local air pollution.

MONITORED AIR QUALITY LEVELS

The California Air Resources Board (CARB) and NSAQMD monitor the local ambient air quality in and around the project area. CARB monitors ambient air quality at approximately 250 air monitoring stations across the state. Air quality monitoring stations typically measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations.

The Grass Valley-Litton Building is the nearest air monitoring station to the project area. The data collected at this station is considered to be representative of the air quality experienced in the project vicinity. Air quality data from 2009 to 2011 for the Grass Valley-Litton Building Monitoring Station is provided in Table 4.5-1, *Local Air Quality Levels*. Monitoring data for particulate matter 10 microns in diameter or less (PM₁₀) was taken from the San Andreas-Gold Strike Road monitoring station, which is the closest monitoring station that collects data for PM₁₀. The following air quality information briefly describes the

various types of pollutants monitored at local stations. It should be noted that Table 4.5-1 does not include data for carbon monoxide (CO) and sulfur dioxide (SO₂), as monitoring data for these pollutants are not available in the Basin.

**Table 4.5-1
 Local Air Quality Levels**

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration ³	Days (Samples) State/Federal Std. Exceeded
Ozone (O ₃) 1 hour ¹	0.09 ppm (1 hour)	0.12 ppm (1 hour)	2009	0.103 ppm	3/0
			2010	0.093	0/0
			2011	0.094	0/0
Ozone (O ₃) 8 hour ¹	0.07 ppm (8 hour)	0.08 ppm (8 hour)	2009	0.091 ppm	38/17
			2010	0.088	18/6
			2011	0.082	20/6
Nitrogen Dioxide (NO ₂) ¹	0.18 ppm (1 hour)	0.100 ppm (1 hour)	2009	0.026 ppm	0/NM
			2010	0.033	0/NM
			2011	0.028	0/NM
Particulate Matter (PM ₁₀) ^{2, 3, 4}	50 : g/m ³ for 24 hours	150 : g/m ³ for 24 hours	2009	26.0 µg/m ³	0/0
			2010	26.3	0/0
			2011	32.2	0/0
Fine Particulate Matter (PM _{2.5}) ^{1, 3, 4}	12 mg/m ³ (annual arithmetic mean)	35 mg/m ³ (24 hours)	2009	36.0 µg/m ³	NM/0
			2010	19.7	NM/0
			2011	21.0	NMA/0

ppm = parts per million; NM = not measured; µg/m³ = micrograms per cubic meter; PM_{2.5} = particulate matter 2.5 microns in diameter or less; NA = not applicable.

1. The nearest monitoring station is located at 200 Litton Drive, Suite 230, Grass Valley California 95945. Data for O₃, PM_{2.5}, and NO₂ were obtained from this monitoring station. Data for CO and SO₂ are not available in the Mountain Counties Air Basin.
2. Measurements were taken at the San Andreas-Gold Strike Road Monitoring Station (located at 501 Gold Strike Road, San Andreas, California 95249).
3. Maximum concentration is measured over the same period as the California standards.
4. PM₁₀ and PM_{2.5} exceedances are derived from the number of samples exceeded, not days.

Source: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2009 to 2011, <http://www.arb.ca.gov/adam>.

Ozone (O₃)

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately ten miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone) layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays (UV-B).

“Bad” ozone is a photochemical pollutant, and needs VOCs, NO_x, and sunlight to form; therefore, VOCs and NO_x are ozone precursors. VOCs and NO_x are emitted from various sources throughout the area. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the stratosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone can adversely affect the human respiratory system and other tissues. Many respiratory ailments, as well as cardiovascular disease, are aggravated by

exposure to high ozone levels. Ozone also damages natural ecosystems (such as forests and foothill communities) and damages agricultural crops and some man-made materials (such as rubber, paint, and plastics). Societal costs from ozone damage include increased healthcare costs, the loss of human and animal life, accelerated replacement of industrial equipment and reduced crop yields.

Carbon Monoxide (CO)

Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. At high concentrations, CO can reduce the oxygen-carrying capacity of the blood and cause headaches, dizziness, unconsciousness and death.

Nitrogen Dioxide (NO_x)

Nitrogen oxides (NO_x) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. Nitrogen dioxide (NO₂), often used interchangeably with NO_x, is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO₂ occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations).

NO_x can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_x concentrations that are much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM₁₀)

PM₁₀ refers to suspended particulate matter (PM) which is smaller than 10 microns. PM₁₀ arises from sources such as road dust, diesel soot, combustion products, construction operations and dust storms. PM₁₀ scatters light and significantly reduces visibility. In addition, these particulates penetrate the lungs and can potentially damage the respiratory tract.

Fine Particulate Matter (PM_{2.5})

Due to recent increased concerns over health impacts related to fine particulate matter, both federal and state standards have been created for PM_{2.5}. The impacts of fine particulate matter primarily affect infants, children, the elderly and those with pre-existing cardiopulmonary disease.

Sulfur Dioxide

Sulfur dioxide is a colorless, pungent gas belonging to the family of sulfur oxide gases (SO_x), formed primarily by combustion of sulfur-containing fossil fuels (primarily coal and oil), and during metal smelting and other industrial processes. Sulfur dioxide (SO₂) is often used interchangeably with sulfur oxides (SO_x). The major health concerns associated with exposure to high concentrations of SO_x are effects on breathing, respiratory illness, diminishment of pulmonary defenses and aggravation of existing cardiovascular disease.

Major subgroups of the population that are most sensitive to SO_x are individuals with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema), as well as children and the elderly. Emissions of SO_x also can damage the foliage of trees and agricultural crops. Together, SO_x and NO_x are the major precursors to acid rain, which is associated with the acidification of lakes and streams and the accelerated corrosion of buildings and public monuments. Sulfur oxides can react to form sulfates, which significantly reduce visibility.

Reactive Organic Gases (ROGs) and Volatile Organic Compounds (VOCs)

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. ROGs comprise all hydrocarbons except those exempted by CARB. Therefore, ROGs are a set of organic gases based on state rules and regulations. VOCs are similar to ROGs in that they comprise all organic gases except those exempted by federal law. VOCs are, therefore, a set of organic gases based on federal rules and regulations. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries and oil-fueled power plants. Other common sources are petroleum fuels, solvents, dry cleaning solutions and paint (via evaporation).

Sensitive Receptors

The NSAQMD identifies a sensitive receptor as a location where human populations (especially children, senior citizens and sick persons) are present. Additionally, a sensitive receptor location occurs where there is a reasonable expectation of continuous human exposure to pollutants, according to the averaging period for ambient air quality standards, such as 24 hours, eight hours or one hour. Examples of sensitive receptors are residences, hospitals and schools; industrial and commercial uses are not considered sensitive receptors.

4.5.2 REGULATORY SETTING

United States Environmental Protection Agency

The principal air quality regulatory mechanism on the federal level is the Clean Air Act (FCAA) and, in particular, the 1990 amendments to the FCAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O₃, CO, NO₂ (a form of NO_x), SO₂ (a form of SO_x), PM₁₀, PM_{2.5}, and lead (Pb); refer to Table 4.5-2, *National and California Ambient Air Quality Standards*. The EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf) and those that are under the exclusive authority of the federal government, such as aircraft, locomotives and interstate trucking.

California Air Resources Board

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 4.5-2, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility-reducing particulates, hydrogen sulfide and sulfates.

**Table 4.5-2
National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	California ¹		Federal ²	
		Standard ³	Attainment Status	Standards ⁴	Attainment Status
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Nonattainment	N/A ⁵	N/A ⁵
	8 Hours	0.07 ppm (137 µg/m ³)	Nonattainment	0.075 ppm (147 µg/m ³)	Nonattainment
Particulate Matter (PM ₁₀)	24 Hours	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
	Annual Arithmetic Mean	20 µg/m ³	Nonattainment	N/A ⁶	Unclassified
Fine Particulate Matter (PM _{2.5})	24 Hours	No Separate State Standard		35 µg/m ³	Unclassified/Attainment
	Annual Arithmetic Mean	12 µg/m ³	Unclassified	15 µg/m ³	Unclassified/Attainment
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Unclassified	35 ppm (40 mg/m ³)	Unclassified/Attainment
	8 Hours	9.0 ppm (10 mg/m ³)	Unclassified	9 ppm (10 mg/m ³)	Unclassified/Attainment
Nitrogen Dioxide (NO ₂) ⁷	1 Hour	0.18 ppm (339 µg/m ³)	Attainment	100 ppb (188 µg/m ³)	N/A
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	N/A	53 ppb (100 µg/m ³)	Unclassified/Attainment
Sulfur Dioxide (SO ₂)	1 Hour	0.25 ppm (655 µg/m ³)	Attainment	75 ppb (196 µg/m ³)	N/A
	3 Hours	N/A	N/A	N/A	Unclassified
	24 Hours	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm	Unclassified
	Annual Arithmetic Mean	N/A	N/A	0.030 ppm	Unclassified
Lead (Pb)	30 days average	1.5 µg/m ³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m ³	N/A
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	No Federal Standards	
Sulfates	24 Hour	25 µg/m ³	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	N/A		

µg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

Table 4.5-2, continued

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM₁₀ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In 1990, the California Air Resources Board (CARB) identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 parts per million ambient concentration specified in the 1978 standard.
2. National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. The Federal 1-hour ozone standard was revoked on June 15, 2005 in all areas except the 14 8-hour ozone nonattainment Early Action Compact (EAC) areas.
6. The Environmental Protection Agency revoked the annual PM₁₀ standard in 2006 (effective December 16, 2006).
7. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that EPA standards are in units of ppb and California standards are in units of ppm.

Source: California Air Resources Board and U.S. Environmental Protection Agency, June 7, 2012.

State Air Toxics Program

Toxic air contaminants are another group of pollutants of concern in California. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to toxic air contaminants can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of toxic air contaminants include cancer, birth defects, neurological damage and death.

California regulates toxic air contaminants through its air toxics program, mandated in Chapter 3.5 (Toxic Air Contaminants) of the Health and Safety Code (Health and Safety Code Section 39660 et seq.) and Part 6 (Air Toxics “Hot Spots” Information and Assessment) (Health and Safety Code Section 44300 et seq.). CARB, working in conjunction with the State Office of Environmental Health Hazard Assessment (OEHHA), identifies toxic air contaminants. Air toxic control measures may then be adopted to reduce ambient concentrations of the identified toxic air contaminant to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through use of best available control technology for toxics. The program is administered by CARB. Air quality control agencies, including the NSAQMD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by CARB.

Northern Sierra Air Quality Management District

Air districts have the primary responsibility to control air pollution from all sources other than those directly emitted from motor vehicles, which are the responsibility of CARB and the EPA. Air districts adopt and enforce rules and regulations to achieve state and federal ambient air quality standards and enforce applicable state and federal law.

The local air quality agency is the NSAQMD. The NSAQMD is comprised of three contiguous, mountainous, rural counties in northeastern California (Nevada, Sierra, and Plumas counties). The NSAQMD is part of the Mountain Counties Air Basin. The NSAQMD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates open burning. Through its permitting powers, the NSAQMD enforces limitations for emission of criteria and toxic air contaminants. Other NSAQMD responsibilities include monitoring air quality, preparation of clean air plans and responding to citizen air quality complaints.

Nevada County General Plan

The Air Quality Element and the Circulation Element of the Nevada County General Plan includes several goals, objectives and policies with respect to air quality, including the following:

Air Quality Element

- Goal 14.1: Attain, maintain, and ensure high air quality.
- Objective 14.1: Establish land use patterns that minimize impacts on air quality.
- Policy 14.1: Cooperate with the Air Quality Management District (currently the NSAQMD), during review of development proposals. As part of the site plan review process, require applicants of all subdivisions, multi-family, commercial and industrial development projects to address cumulative and long-term air quality impacts, and request the District enforce appropriate land use regulations to reduce air pollution.
- Objective 14.2: Implement standards that minimize impacts on and/or restore air quality.
- Policy 14.2: Include the following as part of the Comprehensive Site Development Standards:
- a. Encourage maximized solar access, where feasible, and consistent with the maintenance of scenic values, in new subdivision designs to optimize energy efficiency.
 - b. Require all installations of solid fuel-burning devices comply with the current Federal EPA emission standards.
 - c. Require installation of masonry and zero-clearance fireplaces in new construction to comply with the current EPA Phase particulate emission limits.
- Policy 14.3: Where it is determined necessary to reduce short-term and long-term cumulative impact, the County shall require all new discretionary projects to offset any pollutant increases. Wherever possible, such offsets shall benefit lower-income housing.
- Policy 14.4: Encourage and cooperate with the Northern Sierra Air Quality Management District, or any successor agency, to:

- a. Work with the County, local public utility districts, other public agencies and the private sector to encourage the development and implementation of educational and incentive programs to encourage energy conservation, house weatherization, solar energy use in new and existing buildings and provide air quality monitoring and advisory programs (e.g., daily standard air pollution index data).
- b. Develop a community biomass program in cooperation with the Nevada County Department of Sanitation and existing homeowner associations, and provide incentives for composting, mulching, grinding, cogeneration, feedstocks and chipping in-lieu of outdoor burning.
- c. Adopt control measures to reduce pollutant emissions from open burning.
- d. Develop a program to regulate and control fugitive dust emissions from construction projects.
- e. Identify and establish visibility standards for air quality in the County.

Policy 14.5:

Encourage and cooperate with the Northern Sierra Air Quality Management District, or any successor agency, to develop and implement a long-term monitoring program to quantify air quality in the County. The County shall work with the District to identify areas for monitoring and to develop an implementation program to begin on-site monitoring upon project application where a proposal will result in an increase of more than 25 tons per year of non-attainment pollutants (or precursors). The County will also cooperate with the District in developing a monitoring program for carbon monoxide emissions at key intersections as a basis for consideration of short- to long-term air quality in the preparation of the County Road Improvement Program.

Policy 14.6:

For new construction, the County shall prohibit the installation of non-EPA certified and non-EPA exempt solid fuel burning devices.

Policy 14.7:

The County shall cooperate with all appropriate agencies and other regional transportation agencies that include surrounding counties to develop programs designed to maximize the participation of employers in employer-operated van pool and/or ride sharing for employees, and mass transit service for both employees and customers.

Policy 14.7A:

The County shall, as part of its development review process, ensure that proposed discretionary developments address the requirements of NSAQMD Rule 226.

Policy 14.7B:

The County shall, as part of its Road Improvement Program, consider the benefits to air quality from the paving of unpaved roads.

Objective 14.3: Identify regional impacts and coordinate with other agencies to achieve attainment.

Policy 14.8: Consider adoption of Joint Powers Agreements or similar legal mechanisms with other counties located within Nevada County's regional sphere to comprehensively address regional air quality impacts as a result of development in each County.

Circulation Element

Goal RD-4.1: Reduce dependence on the automobile.

Goal RD-4.2: Increase the availability of alternative modes of transportation.

Goal RD-4.3: Decrease vehicle miles traveled while encouraging increased transit ridership and vehicle occupancy.

Goal RD-4.4: Encourage land use patterns that reduce the need for new roadways and promote the use of alternative transportation modes.

Policy RD-4.3.4: Minimize the need to commute by:

- a. Providing for an adequate amount of residential, commercial, and industrial designations in proper balance, as shown on the General Plan Land Use Maps; and
- b. Encouraging Economic Development and Public Facility policies that support local employment opportunities.

Housing Element

Goal EC-8.1: Provide for a variety of alternative housing options and the use of alternative, innovative, and appropriate technology.

Policy EC-8.6.1: Encourage energy efficient site design in new land divisions, particularly in larger subdivisions and planned developments where there is sufficient area for alternate designs as follows:

- a. Encourage lot patterns that maximize proper solar orientation;
- b. Utilize interconnected streets and traffic calming features to reduce fuel consumption and encourage walkability;
- c. Provide adequate on-site usable open space and relate the type, amount and location of open space to the types of households expected to occupy the building;
- d. Include in the project, or locate project within walking distance to (generally, one-quarter to one-half mile), needed amenities such as storage, laundry, community rooms, recycling, childcare facilities, and convenient shopping facilities.

Policy EC-8.6.3 Promote infill within existing residential neighborhoods and intensify land uses consistent within existing neighborhood or commercial district patterns in developed areas currently served by municipal services.

- Policy EC-8.6.4: In addition to Title 24, Part 6 of the California Code of Regulations, the County shall promote energy efficiency and alternative energy sources for new and rehabilitated housing using incentives and site plan review recommendations, which shall include the following:
- a. Passive solar design to maximize solar energy capture.
 - b. Preservation of native trees that provide shade, reduce energy costs, and slow structural deterioration.
 - c. Incorporation of adequate deciduous tree cover on the south and west side of dwellings and along streets to help reduce the cooling demand during summer months and capture maximum solar energy in winter.
 - d. Maximization of use of daylight and energy-efficient lighting, such as compact fluorescent lighting indoors and LED lighting outdoors.
 - e. Energy-Star rated appliances, solar hot water heating systems, and other plumbing, mechanical, electrical, and solar permits issued for systems that either produce energy or save natural resources, such as wind-generated electrical systems, tankless water heaters, and highly efficient heating, ventilation and air conditioning systems.
 - f. Water conservation features, including reclamation; landscaping appropriate to the site's climate, soils, and water resources; and water-saving irrigation practices.
 - g. Solid waste reduction and recycling.
- Program EC-8.6.5: Adopt a solar access ordinance that establishes development standards for new development to protect the solar access of adjacent properties.
- Policy EC-8.6.5: Continue to strongly support the current housing weatherization programs and Energy Crisis Intervention Program within Nevada County.

City of Grass Valley 2020 General Plan

The candidate sites for rezoning are located within three general areas of Nevada County. One of the areas where the candidate sites are located includes the Grass Valley Sphere of Influence. The Conservation/Open Space Element of the Grass Valley 2020 General Plan includes several goals, objectives and policies with respect to air quality, including the following:

- Goal 6-COSG: Assure compliance with and understanding of air and water quality regulations and standards.
- Objective 16-COSO: Inclusion of air and water quality considerations in land use decisions rendered by the Planning Commission and City Council.

- Policy 22-COSP: Implement circulation/transportation measures designed to reduce reliance on the automobile.
- Implementation 16-COSI: Study and consider a permanent ban on open burning within City limits.
- Implementation 17-COSI: Incorporate applicable mitigation measures specified in the *Indirect Source Review Guidelines of the Northern Sierra Air Quality Management District, 1996-1997*, in all future discretionary land use approvals.

4.5.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would result in significant air quality impacts if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

Standards-Based Thresholds

Criteria Pollutants

For the purposes of this air quality analysis, actions that violate federal standards for criteria pollutants (i.e., primary standards designed to safeguard the health of people considered to be sensitive receptors while outdoors and secondary standards designed to safeguard human welfare) are considered significant impacts. Additionally, actions that violate state standards developed by the CARB or criteria developed by the NSAQMD, including thresholds for criteria pollutants, are considered significant impacts. Projects that would generate 136 tons per day of ROG, NO_x or PM₁₀ are considered to have a potentially significant regional air quality impact.

Among the criteria used by the NSAQMD to evaluate a project's air quality impact is the project's potential to emit pollutants exceeding the established threshold amounts for individual pollutants. Level A thresholds require only standard mitigation measures applicable to all projects, which the NSAQMD typically recommends. Level B thresholds represent a "cumulatively considerable" emission that requires additional mitigation. Level C thresholds require the use of all feasible and reasonable mitigation strategies. Unmitigated emissions above 136 pounds per day are considered to represent a significant impact. In cases when predicted emissions are projected to be below the Level C thresholds but exceeding the Level A thresholds (thereby placing project related air quality impacts at Level B), the project would be considered potentially significant, subject to the recommended

measures of NSAQMD’s *Mitigation for Use During Design and Construction Phases for Classifications as Level B Threshold* (2009). Implementation of the appropriate NSAQMD mitigation from this collection of measures would reduce Level B air quality impacts to a less than significant level. Therefore, NSAQMD Level C thresholds were used. Refer to Table 4.5-3, *NSAQMD Thresholds for Significant Contribution to Regional Air Pollution*.

**Table 4.5-3
 NSAQMD Thresholds for Significant Contribution to Regional Air Pollution**

Criteria Pollutant	Threshold (pounds per day)
Oxides of Nitrogen (NO _x)	136
Reactive Organic Gases (ROG)	136
Particulate Matter (PM ₁₀)	136

Source: NSAQMD, *Draft Guidelines for Assessing Air Quality Impacts of Land Use Projects*, 2009.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Short-Term (Construction) Air Quality

4.5-1 THE PROPOSED PROJECT WOULD RESULT IN TEMPORARY CONSTRUCTION-RELATED DUST AND VEHICLE EMISSIONS DURING CONSTRUCTION WITHIN THE PROJECT AREA.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The County’s housing needs would be accommodated within vacant or underutilized land zoned for residential use. Construction activities for residential projects would generate air pollutant emissions during site grading, operation of construction equipment and vehicle activities. Under the Housing Element Rezone Implementation Program, varying amounts of construction would occur over time. Temporary air emissions would generally result from the following activities:

- Particulate (fugitive dust) emissions from the proposed demolition, grading and building construction
- Exhaust emission from the construction equipment and the motor vehicles of the construction crew

The thresholds of significance recommended by the NSAQMD for construction emissions were developed for individual development projects. Construction-related emissions are described as short term or temporary in duration and have the potential to represent a significant impact with respect to air quality. Implementation of the proposed Housing Element Rezone Implementation Program is dependent on individual housing decisions, employment opportunities, provision of services for housing and supporting commercial uses, land use decisions by the County and other public agencies, regional transportation planning decisions, the decisions of financial institutions related to development projects, and other similar factors.

Future development within the rezone areas would be reviewed in relation to residential uses, revenue-generating employment uses, housing affordability, provision and financing of infrastructure and public facilities, mechanisms for funding of ongoing service needs and overall coordination of improvements with other future development projects. Subsequent

implementation of future projects and plans would continue to define specific phasing at a detailed level and be reviewed by the County to ensure that development occurs in a logical manner consistent with policies in the Nevada County General Plan, and that additional environmental review is conducted under CEQA, as needed.

The proposed Housing Element Rezone Implementation Program identifies future land uses and does not contain specific development proposals. Construction-related emissions that may occur at any one time are speculative and cannot be accurately determined at this stage of the planning process. Assuming relatively robust economic conditions over the next 20 to 25 years, construction activities would occur at the candidate sites, but the rate of development cannot be anticipated. Construction-related emissions could lead to the violation of an applicable air quality standard or contribute substantially to an existing or projected air quality violation.

Fugitive Dust Emissions

Short-term impacts from the project would result in fugitive particulate matter emissions through grading, excavation, trenching, filling and other construction activities. NSAQMD Regulation 2, Rule 226 (Dust Control) specifies control measures for outdoor sources of fugitive particulate matter emissions (which require watering of inactive and perimeter areas, track out requirements, etc.). As a result, future individual projects within the candidate sites would be required to adhere to Mitigation Measure 4.5-1a, which specifies dust control measures during construction activities.

Reactive Organic Gas Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are ozone precursors. ROG emissions from future individual projects associated with paving and architectural coating activities would occur. All architectural coatings for proposed project structures within the candidate sites would be required to adhere to specifications on painting practices as well as regulating the ROG content within paint; refer to Mitigation Measure 4.5-1b.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from future construction activities under the Housing Element Rezone Implementation Program include emissions associated with the transport of machinery and supplies, emissions produced onsite as the equipment is used and emissions from trucks transporting materials to and from project sites. Emitted pollutants would include ROG, NO_x and PM₁₀. Standard NSAQMD regulations, such as maintaining all construction equipment in proper tune and shutting down equipment when not in use for extended periods of time, would be adhered to and would reduce emissions.

With implementation of Mitigation Measure 4.5-1a and applicable NSAQMD regulations, construction emissions would be reduced. However, due to the scale of the project and extent of fugitive dust, ROG and exhaust emissions, construction activities would result in increased concentrations of nonattainment pollutants (i.e., O₃ and PM₁₀). Incorporation of NSAQMD suggested emissions reduction measures would not inherently reduce impacts to less than significant levels; significance is determined by comparing project emissions to NSAQMD thresholds. At this time, it is not known when the candidate sites would be under construction and it would be speculative to estimate which of the sites would be under construction simultaneously. Also, the construction emission reduction measures, and consequently, the amount of reductions that may be achieved from them, cannot be identified at this time because the NSAQMD does not currently have any established

emissions reduction programs. Therefore, for the purpose of this EIR analysis, air emissions from fugitive dust, ROG and exhaust associated with construction activities would be significant and unavoidable.

Construction Odors

Construction activities occurring under the Housing Element Rezone Implementation Program could also generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust) and the application of architectural coatings. However, these odors are not generally considered offensive and would cease upon completion of construction. Emissions would occur during daytime hours only and would be isolated to the immediate vicinity of the construction site and activity. As such, these odors would not affect a substantial number of people and impacts would be limited to people living and working near the source. Emissions produced during grading and construction activities would be short term, as they would exist only during construction. The NSAQMD only has thresholds for the PM₁₀, ROG and NO_x criteria pollutants since the Basin is designated nonattainment for state PM₁₀ and federal and state O₃ (ROG and NO_x are O₃ precursors). Due to the types of odors that would occur in the Housing Element Rezone Implementation Program area and limited exposure, implementation of the Housing Element Rezone Implementation Program would not create construction-related objectionable odors affecting a substantial number of people, and impacts would be less than significant.

Naturally Occurring Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, lead agencies are encouraged to analyze potential impacts related to naturally occurring asbestos. Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects and at quarry operations.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), ultramafic rocks do not have the potential to occur in the vicinity of the candidate sites in Lake of the Pines and Penn Valley. However, ultramafic rocks have the potential to occur in the vicinity of the Grass Valley Sphere of Influence. As a result, these sites are located in an area where naturally occurring asbestos is likely to be present.

Earthen material containing naturally occurring asbestos equal to or greater than one percent is considered a hazardous waste. It is also regulated as a hazardous substance under the Hazardous Substance Account Act (HSAA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). As asbestos is a known carcinogen, there are certain precautions that are required for naturally occurring asbestos, most related to dust control.

The Statewide Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations (Asbestos ATCM), codified in the California Code of Regulations, Title 17, Section 93105, contains requirements for projects located in areas

mapped as having, or observed to have, ultramafic rock or serpentinite. For residential developments in ultramafic areas, the NSAQMD requires either the placement of at least 3 inches of non-asbestos-containing material or paving on top of the native soil. The Statewide Asbestos Airborne Toxic Control Measure for Surfacing Applications (Surfacing ATCM), codified in the California Code of Regulations, Title 17, Section 93106, prohibits the use of material containing 0.25 percent asbestos or greater for surfacing of trails, playgrounds, pedestrian areas, roads, landscaping, parking lots, etc. Due to the potential for naturally occurring asbestos to be present within the Grass Valley candidate sites, Mitigation Measure 4.5-1c would be required to reduce potential impacts to a less than significant level.

Mitigation Measures:

The following mitigation measures apply to all sites.

- 4.5-1a Prior to the issuance of grading permits, all construction contracts shall include dust control mitigation requirements. All construction contracts shall require the following:
- All construction activities shall be subject to the requirements of the NSAQMD's Regulation 2, Rule 226 regarding dust control.
 - Alternatives to open burning of vegetative material on the project site shall be used unless deemed infeasible by the NSAQMD. Suitable alternatives are chipping, mulching or conversion to biomass fuel.
 - Contractors shall be responsible for ensuring that adequate dust control measures are implemented in a timely manner during all phases of project development and construction.
 - All material excavated, stockpiled or graded shall be sufficiently watered, treated or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or violation of an ambient air standard. Watering shall occur at least twice daily, with complete site coverage, preferably in the mid-morning and after work is completed each day.
 - All areas (including unpaved roads) with vehicle traffic shall be watered or have a dust palliative applied as necessary for stabilization of dust emissions.
 - All onsite vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
 - All land clearing, grading, earth moving or excavation activities shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 miles per hour. Temporary traffic control shall be provided during all phases of the construction to improve traffic flow as deemed appropriate by the County and/or applicable local agencies.
 - Construction activities shall be scheduled to direct construction traffic flow to off-peak hours as much as possible.
 - All inactive portions of the construction site shall be covered, seeded, or watered until a suitable cover is established. Alternatively, nontoxic soil stabilizers shall be applied (according to manufacturer's specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with County

standards. Acceptable materials that may be used for chemical soil stabilization include petroleum resins, asphaltic emulsions, acrylics and adhesives, which do not violate Regional Water Quality Control Board or California Air Resources Board standards.

- Track-out devices (e.g., gravel pads, wheel shakers, etc.) or wheel washers shall be installed where project vehicles and/or equipment enter and/or exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed prior to each trip, as necessary to prevent visible dust emissions from adhering dirt or deposition on roadways.
- All material transported offsite shall be either sufficiently watered or securely covered to prevent public nuisance.
- Ground cover shall be re-established onsite through seeding and watering in accordance with the local grading ordinance.
- All mobile and stationary equipment shall be properly maintained.
- The County shall require projects to utilize best management practices and the use of construction equipment that meets applicable non-road diesel fuel emission standards.

4.5-1b The following measures shall be implemented by the contractor to reduce ROG emissions resulting from application of architectural coatings:

- Use high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50 percent;
- Use required coatings and solvents with a low ROG content VOC pursuant to the limits in the U.S. EPA National Architectural Coating Rule (40 CFR Part 59); and
- Use pre-painted construction materials.

4.5-1c During ground disturbance activities associated with the Grass Valley candidate sites, the construction contractor shall comply with CARB's Airborne Toxic Control Measures (ATCM) addressing Naturally Occurring Asbestos (NOA) (Section 93105 and 93106 of Title 17 of the California Code of Regulations). These ATCMs regulate construction, grading, quarrying and surface mining operations, as well as surfacing applications. It should be noted that this mitigation measure applies to the candidate sites within the Grass Valley Sphere of Influence. NOA is not anticipated to occur within the candidate sites in Penn Valley or Lake of the Pines.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

Long-Term (Operational) Air Quality

4.5-2 THE PROPOSED PROJECT COULD RESULT IN AN OVERALL INCREASE IN LOCAL AND REGIONAL MOBILE AND STATIONARY SOURCE EMISSIONS, WHICH MAY EXCEED AIR QUALITY STANDARDS.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Operational emissions would be generated by both stationary and mobile sources due to normal day-to-day activities occurring in candidate sites area after development. Mobile emissions are those generated by the motor vehicles traveling to and from the project area. Stationary source emissions are those generated by the consumption of natural gas for space and water heaters, landscape maintenance equipment, and consumer products. Through the environmental review process for future proposed individual projects, additional mitigation may also be required to further reduce emissions and potential impacts.

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_x and PM₁₀ are all pollutants of regional concern (NO_x and ROG react with sunlight to form O₃ [photochemical smog], and wind currents readily transport PM₁₀). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

As previously discussed, the Basin is a nonattainment area for federal and state air quality standards for O₃ and state PM₁₀. NO_x and ROG are regulated O₃ precursors. A precursor is defined as a directly emitted air contaminant that, when released into the atmosphere forms a secondary air contaminant for which an ambient air quality standard has been adopted. Development of the approximately 2,675 dwelling units that could occur with project implementation is estimated to generate approximately 8,860 net average daily trips (ADT). The net project-related vehicle emissions associated with the 2,675 dwelling units have been estimated using the California Emissions Estimator Model (CalEEMod). This model predicts emissions of criteria pollutants from motor vehicle traffic associated with new or modified land uses. Table 4.5-4, *Long-Term Operational Air Emissions*, presents the anticipated area and mobile source emissions.

Stationary Source Emissions

Development of the 2,675 housing units would generate increased area and energy source emissions. Stationary source emissions would be generated as a result of an increased demand for electrical energy and natural gas associated with implementation of the proposed project. This assumption is based on the supposition that those power plants supplying electricity to the site are utilizing fossil fuels. Electric power generating plants are distributed throughout the Basin and western United States, and their emissions contribute to the total regional pollutant burden. The primary use of natural gas by the proposed land uses would be for combustion to produce space heating, water heating, other miscellaneous heating or air conditioning, consumer products and landscaping. Table 4.5-4 presents the net area and energy source emissions that could result from the proposed project.

**Table 4.5-4
Long-Term Operational Air Emissions**

Source ²	Estimated Annual Average Emissions (pounds/day) ¹				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
EXISTING/DISPLACED EMISSIONS					
Area Sources	28.98	0.85	74.94	1.39	1.38
Energy Sources	0.35	2.98	1.27	0.24	0.24
Mobile Sources	73.84	229.60	609.21	89.70	9.97
Total Existing Emissions	103.17	233.43	682.42	91.40	11.59

Table 4.5-4, continued

Source ²	Estimated Annual Average Emissions (pounds/day) ¹				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
PROPOSED EMISSIONS					
Area Sources	92.50	2.71	229.62	4.45	4.41
Energy Sources	1.11	9.52	4.05	0.77	0.77
Mobile Sources	170.86	531.28	1,409.69	207.73	15.91
Total Proposed Emissions	264.47	543.51	1,643.36	212.95	28.24
Net Increase Over Existing/Displaced	161.30	310.08	960.94	121.55	16.65
<i>NSAQMD Level C Threshold²</i>	>136	>136	NA	>136	NA
Is Threshold Exceeded? (Significant Impact)	Yes	Yes	NA	No	NA

Notes:

1 – Based on CalEEMod modeling results, worst-case seasonal emissions for area and mobile emissions have been modeled.

2 – The NSAQMD has developed a tiered approach to significance levels: projects with emissions meeting Level A thresholds require the most basic mitigations; projects with emissions in the Level B range require more extensive mitigations; and projects that exceed Level C thresholds require the most extensive mitigations. Short- or long-term increases in emissions in excess of Level C thresholds for NO_x, ROG, or PM₁₀ would be considered significant.

Refer to Appendix D, Air Quality/Greenhouse Gas Emissions Data, for assumptions used in this analysis.

As shown in Table 4.5-4, the net emissions generated by mobile, area and energy sources associated with implementation of the Housing Element (allowing for approximately 2,680 residential dwelling units) would exceed established NSAQMD thresholds for ROG and NO_x.

The NSAQMD *Draft Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects* (Draft Guidelines) contains suggested mitigation for mobile source emissions. This mitigation recommends the following:

- Streets shall be designed to maximize pedestrian access to transit stops.
- Provide for on-site road and off-site bus turnouts, passenger benches and shelters as demand and service routes warrant, subject to review and approval by local transportation planning agencies.
- Larger projects may be required to contribute a proportionate share to the development and/or continuation of a regional transit system. Contributions may consist of dedicated right-of-way, capital improvements, easements, etc.
- Provide for pedestrian access between bus service and major transportation points within the project, and between separate sections of the project, where feasible.
- Contribute to traffic-flow improvements (i.e., right-of-way, capital improvements, etc.) that reduce emissions and are not considered as substantially growth inducing.
- Larger projects may be required to provide for, contribute to, or dedicate land for the provision of off-site bicycle trails linking the project to designated bicycle commuting routes in accordance with an adopted citywide or countrywide bikeway plan.

Additionally, a significant contributor to area and energy source emissions from the proposed project is wood-burning devices. The NSAQMD Draft Guidelines include the following recommended mitigation for land use emissions:

- Incorporate mixed uses, where permitted by local development regulations, to achieve a balance of commercial, employment, retail and housing options where feasible.

- Larger projects shall provide for neighborhood parks or other recreational options such as trails to minimize vehicle travel to offsite recreational uses and/or commercial areas.
- Provide densities of nine units per acre or greater, where allowed by the General Plan and/or Zone Plan, along bus routes and at bus stops to encourage transit use, where feasible.

Mitigation would be required to further reduce mobile source and area source emissions. Mitigation Measure 4.5-2a would incorporate transit measures to reduce mobile source emissions, and Mitigation Measure 4.5-2b would reduce area source emissions by allowing only natural gas/LPG fireplaces or stoves. Although Mitigation Measure 4.5-2b would reduce hearth-related (wood burning fireplaces or stoves) emissions, the combination of mobile source and remaining area source emissions would still exceed the NSAQMD operational thresholds.

The Nevada County General Plan includes various Goals and Policies that would reduce mobile and stationary source emissions. Mobile source emissions would be reduced with implementation of General Plan Goals RD-4.1 through RD-4.4, which would reduce dependence on the automobile, decrease vehicle miles traveled while encouraging transit ridership and vehicle occupancy, and encourage land use patterns that promote the use of alternative transportation. General Plan Policy 14.7 requires the County to cooperate with all appropriate agencies and other regional transportation agencies that include surrounding counties to develop programs designed to maximize the participation of employers in employer-operated van pool and/or ride sharing for employees, and mass transit service for both employees and customers.

General Plan Policy 14.2 requires the County to include energy efficiency standards as part of the Comprehensive Site Development Standards. These measures include maximized solar access to optimize energy efficiency. General Plan Policy 14.4 requires cooperation with the NSAQMD to work with the County, local public utility districts, other public agencies and the private sector to encourage the development and implementation of educational and incentive programs to encourage energy conservation, house weatherization, solar energy use in new and existing buildings, and provide air quality monitoring and advisory programs. General Plan Policy EC-8.6.3 promotes infill development and General Plan Policy EC-8.6.4 includes requirements for water conservation features including reclamation and efficient landscaping.

Conclusion

Implementation of the proposed Housing Element would allow for the development of a maximum 2,675 additional housing units within the candidate areas. Development of these additional housing units would generate increased operational air emissions. Total operational emissions are described in terms of area source and mobile source emissions. As indicated in Table 4.5-4, operational emissions from buildout of the candidate sites would exceed the NSAQMD thresholds for ROG and NO_x. With incorporation of the NSAQMD suggested mitigation for mobile source emissions (Mitigation Measure 4.5-2a) and Mitigation Measure 4.5-2b, the Housing Element Rezone Implementation Program operational emissions would remain above NSAQMD thresholds.

It should be noted that the emissions modeled in Table 4.5-4 are for the aggregate total of 18 candidate sites assuming the maximum development potential. Additionally, one of the site selection criteria was the proximity to local services. The project would also increase density. Both the increase in density and proximity to local services would reduce vehicle miles

traveled (VMT), thereby reducing mobile source emissions. Environmental review of future projects within the candidate sites as part of the Housing Element Rezone Implementation Program may require additional project-specific mitigation to reduce project impacts to less than significant levels. Due to the substantial amount of development that would be accommodated by the proposed Housing Element Rezone, long-term operational impacts would be significant and unavoidable.

General Plan Goals and Policies: General Plan Goals RD-4.1 through RD-4.4, Goal EC-8.1, Policy 14.2, Policy 14.4, Policy 14.7, Policy EC-8.6.1, Policy EC-8.6.3, Policy EC-8.6.4, Policy EC-8.6.5, and Program EC-8.6.5.

Mitigation Measures:

The following mitigation measures apply to all sites.

- 4.5-2a Prior to the approval of any site plans, the Planning Director or City of Grass Valley Planning Director for Sites 1-9, shall confirm that all project plans incorporate the suggested mitigation measures for mobile source emissions identified in the *NSAQMD Draft Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects* (Draft Guidelines). These measures include the following:
- Streets shall be designed to maximize pedestrian access to transit stops.
 - Provide for on-site road and off-site bus turnouts, passenger benches, and shelters as demand and service routes warrant subject to review and approval by local transportation planning agencies.
 - Larger projects may be required to contribute a proportionate share to the development and/or continuation of a regional transit system. Contributions may consist of dedicated right-of-way, capital improvements, easements, etc.
 - Provide for pedestrian access between bus service and major transportation points within the project, and between separate sections of the project, where feasible.
 - Contribute to traffic-flow improvements (i.e., right-of-way, capital improvements, etc.) that reduce emissions and are not considered as substantially growth inducing.
 - Larger projects may be required to provide for, contribute to, or dedicate land for the provision of off-site bicycle trails linking the project to designated bicycle commuting routes in accordance with an adopted citywide or countrywide bikeway plan.
- 4.5-2b Only natural gas/liquefied petroleum gas (LPG) fireplaces or stoves shall be permitted within the candidate sites. EPA Phase II-certified wood-burning fireplaces or stoves may be used if natural gas/LPG fireplaces or stoves are considered infeasible based on consultation with the County and NSAQMD. Conventional open-hearth fireplaces shall not be permitted.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

Odor

4.5-3 THE PROPOSED PROJECT COULD RESULT IN AN OVERALL INCREASE IN ODORS WITHIN THE PROJECT AREA.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

Future residential land uses are generally not anticipated to create objectionable odors affecting a substantial number of people. The potential source of odors would be new waste receptacles within the community. The receptacles would be stored in areas and in containers, as required by County Department of Environmental Health regulations, and be emptied on a regular basis, before potentially substantial odors have developed. Consequently, implementation of the proposed Housing Element Rezone Implementation Program would not create operational-related objectionable odors affecting a substantial number of people and potential impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance After Mitigation: Not Applicable

Carbon Monoxide Hot Spots

4.5-4 CARBON MONOXIDE HOT SPOTS MAY OCCUR AS A RESULT OF THE PROPOSED PROJECT.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

Carbon monoxide emissions are a function of vehicle idling time, meteorological conditions and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). An intersection operating at a level of service (LOS) D or worse has the potential to result in a CO hotspot, as stated in the NSAQMD Draft Guidelines. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersections. Table 4.5-5, *Carbon Monoxide Concentrations*, provides the list of intersections within the project area that required a CO hotspot analysis.

The projected traffic volumes were modeled using the BREEZE ROADS dispersion model. The resultant values were then added to an ambient concentration. A receptor height of 1.8 meters was used in accordance with the EPA's recommendations. The calculations assume a meteorological condition of almost no wind (0.5 meters/second), a flat topological condition between the source and the receptor and a mixing height of 1,000 meters. A standard deviation of five degrees was used for the deviation of wind direction. The suburban land classification was used for the aerodynamic roughness coefficient. This follows the BREEZE ROADS user's manual definition of suburban as, "regular coverage with large obstacles, open spaces roughly equal to obstacle heights, villages, mature forests."

For the purposes of this analysis, the ambient concentration used in the modeling was the highest one-hour measurement from 2011 (the latest year data was available) of NSAQMD

monitoring data at the Chico-Manzanita Monitoring Station (closest station to the project area that monitors CO). Actual future ambient CO levels may be lower due to emissions control strategies that would be implemented between now and the project buildout date.

**Table 4.5-5
 Carbon Monoxide Concentrations**

Intersection	1-Hour CO (ppm) ¹		8-Hour CO (ppm) ¹	
	1-Hour Standard	Future + Project	8-Hour Standard	Future + Project
Nevada City Highway and Brunswick Road	20 ppm	3.0	9 ppm	2.5
SR 20-49 SB Ramps and Brunswick Road	20 ppm	3.0	9 ppm	2.5
SR 20-49 NB Ramps and Brunswick Road	20 ppm	4.0	9 ppm	3.4
Sutton Way and Brunswick Road	20 ppm	3.1	9 ppm	2.6
Brunswick Road and Idaho Maryland Road	20 ppm	3.0	9 ppm	2.5
La Barr Meadows Road and East McKnight Way	20 ppm	3.0	9 ppm	2.5
La Barr Meadows Road and Site 2 Driveway	20 ppm	3.5	9 ppm	2.9
Brunswick Road and Sites 3-6 and 9 Driveway	20 ppm	3.6	9 ppm	3.0
Brunswick Road and Sites 7 and 8 Driveway	20 ppm	3.6	9 ppm	3.0
SR-49 and Cameo Drive	20 ppm	3.6	9 ppm	3.0
Rosewood Drive and Combie Road	20 ppm	2.9	9 ppm	2.4
SR-49 and Woodridge Drive	20 ppm	3.8	9 ppm	3.2
Cattle Drive and SR-20	20 ppm	3.5	9 ppm	2.9

Notes:

1. As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. Presented 1 hour CO concentrations include a background concentration of 2.8 ppm. Eight-hour concentrations are based on a persistence of 0.84 of the 1-hour concentration.

The intersections in the study area currently operate at an LOS ranging from LOS A to LOS F for PM peak hour activities. At project buildout, the intersections would operate at LOS D or worse in an unmitigated condition. As indicated in Table 4.5-5, CO concentrations would be well below the state and federal standards. The modeling results are compared to the CAAQS for CO of 9 ppm on an eight-hour average and 20 ppm on a one-hour average. Neither the one-hour average nor the eight-hour average would be equaled or exceeded. Impacts in regards to CO hotspots would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance After Mitigation: Not applicable.

Consistency with Air Quality Plan

4.5-5 THE PROJECT MAY NOT BE CONSISTENT WITH THE AIR QUALITY ATTAINMENT PLAN (AQAP) CRITERIA.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

A potentially significant impact to air quality would occur if the project would conflict with or obstruct implementation of the applicable Air Quality Plan. Although the project would represent an incremental negative impact to air quality in the Mountain Counties Air Basin, of primary concern is that project-related impacts have been properly anticipated in the regional air quality planning process and reduced whenever feasible. Therefore, it is

necessary to assess the project's consistency with the NSAQMD's adopted Air Quality Attainment Plan for ozone as well as the County's General Plan and growth forecasts. The purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus, if it would interfere with the region's ability to comply with federal and state air quality standards. It is important to note that even if a project is found consistent, it could still have a significant impact on air quality under CEQA. Consistency with plans means that a project is consistent with the goals, objectives and assumptions in the respective plan to achieve the federal and state air quality standards.

The project proposes to accommodate the County's unmet housing need by rezoning sufficient acreage to higher density residential. The Housing Element Rezone Implementation Program would implement rezoning through the Zoning Map Amendment process to rezone sufficient acreage to higher density residential to meet low and very low income requirements. Current designations include Office Park (OP), Business Park (BP), Community Commercial (CC), Urban Medium Density Residential (UMD), Planned Development (PD) and Urban Single-Family Residential (USF). Current zoning designations include Office Professional (OP), Business Park (BP), Medium Density (R2), Residential Agriculture (RA), Community Commercial (C2), Interim Development Reserve (IDR) and Single-Family (R1), and three different overlay combining districts including Planned Development (PD), Scenic Corridor Combining District (SC) and Site Performance Combining District (SP). As the proposed project proposes densities of 16 or 20 units per acre, the proposed project is inconsistent with current zoning map designation for the proposed project sites.

The proposed project would require amendments to the existing Zoning Map and if necessary, the General Plan Land Use Map to ensure land use designations consistent with the proposed zoning of the sites to High Density (R3) District and Regional Housing Need (RH) Overlay District. It should be noted that all candidate sites would be rezoned to include the RH Combining District and to permit a minimum density of 16 units per acre. The sites within the Grass Valley SOI would be rezoned with a minimum density of 16 units per acre and an allowed maximum of 20 units per acre. Rezoning of the sites to R3 would permit densities of up to 20 dwelling units per acre within the incorporated area's spheres of influence and 15 units per acre elsewhere unless otherwise designated on the official zoning map, while the RH Overlay District would allow densities ranging from 16 to 20 units per acre.

Significance thresholds have been developed by the NSAQMD for criteria pollutants to assist in implementing attainment plans for the area. Assessment of air quality impacts of the project in relation to these significance thresholds determines whether or not the project is consistent with applicable air quality management plans. Impacts relative to NSAQMD thresholds are identified under the Short-Term (Construction) and Long-Term (Operational) Impact Analyses (refer to Impacts 4.5-1 and 4.5-2, respectively). Based on the above analysis, following implementation of recommended mitigation measures, the proposed project would result in significant air quality impacts and would, therefore, conflict with the applicable air quality management plans. The Housing Element Rezone Implementation Program would require amendments to the Zoning Map and the General Plan Land Use Map to increase density within the rezoned areas and therefore would exceed the growth projections in the area. Additionally, the significant air quality impacts could contribute to a pollutant for which the area is nonattainment. Therefore, this is considered to be a significant and unavoidable impact.

General Plan Goals and Policies: General Plan Goals RD-4.1 through RD-4.4, Goal EC-8.1, Policy 14.2, Policy 14.4, Policy 14.7, Policy EC-8.6.1, Policy EC-8.6.3, Policy EC-8.6.4, Policy EC-8.6.5, and Program EC-8.6.5.

Mitigation Measures:

The following mitigation measures apply to all sites:

Implement Mitigation Measures 4.5-1a, 4.5-1b, 4.5-1c, 4.5-2a, and 4.5-2b.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

4.6 GREENHOUSE GAS EMISSIONS

This section analyzes the impacts associated with implementation of the proposed project on greenhouse gas (GHG) emissions and climate change. Modeling data can be found in Appendix E of this EIR.

4.6.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES

The natural process through which heat is retained in the troposphere is called the “greenhouse effect.”¹ The greenhouse effect traps heat in the troposphere through a three-fold process, summarized as follows: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and, GHGs in the upper atmosphere absorb this long-wave radiation and emit this long-wave radiation into space and toward the Earth. This “trapping” of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant GHGs are water vapor and carbon dioxide. Many other trace gases have greater ability to absorb and re-radiate long-wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential for each GHG based on its ability to absorb and re-radiate long-wave radiation.

GHGs include, but are not limited to, the following:²

- *Water Vapor (H₂O)*. Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

The primary human-related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a Global Warming Potential (GWP) for water vapor.

- *Carbon Dioxide (CO₂)*. Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of CO₂ in the atmosphere has increased 36 percent.³ Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.
- *Methane (CH₄)*. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management and leaks in natural gas pipelines. In the

¹ The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

² All Global Warming Potentials are given as 100-year Global Warming Potential. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).

³ United States Environmental Protection Agency, Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2009, April 2011.

United States, the top three sources of methane are landfills, natural gas systems and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production and power generation. The GWP of CH₄ is 21.

- Nitrous Oxide (N₂O). Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production and nitric acid production. The GWP of N₂O is 310.
- Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 11,700 for HFC-23.⁴
- Perfluorocarbons (PFCs). Primary aluminum production and semiconductor manufacturing are the largest known man-made sources of two perfluorocarbons (PFCs): tetrafluoromethane (CF₄) and hexafluoroethane (C₂F₆). Perfluorocarbons are potent GHGs with a GWP several thousand times that of CO₂, depending on the specific PFC. PFCs are also relatively minor substitutes for ozone-depleting substances. The estimated atmospheric lifetimes for CF₄ and C₂F₆ are 50,000 and 10,000 years, respectively. The GWPs of CF₄ and C₂F₆ emissions are approximately 6,500 and 9,200, respectively.⁵
- Sulfur hexafluoride (SF₆). Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the IPCC with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to CO₂ (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively).⁶

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O₃) depleters; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The GWPs of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.⁷

⁴ United States Environmental Protection Agency, *High GWP Gases and Climate Change*, June 14, 2012. <http://epa.gov/climatechange/ghgemissions/gases/fgases.html>, accessed on November 29, 2012.

⁵ Ibid.

⁶ Ibid.

⁷ United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, dated October 29, 2009. <http://www.epa.gov/EPA-AIR/1996/January/Day-19/pr-372.html>, accessed on November 29, 2012.

- 1,1,1 trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 110 times that of CO₂.⁸
- Chlorofluorocarbons (CFCs). CFCs are used as refrigerants, cleaning solvents, and aerosol spray propellants. CFCs were also part of the EPA's Final Rule (57 FR 3374) for the phase out of O₃ depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with GWPs ranging from 4,000 for CFC 11 to 14,000 for CFC 13.⁹

4.6.2 REGULATORY SETTING

FEDERAL

The Federal Clean Air Act (FCAA) requires the United States Environmental Protection Agency (EPA) to define national ambient air quality standards (NAAQS) to protect public health and welfare in the United States. The FCAA does not specifically regulate GHG emissions; however, on April 2, 2007 the U.S. Supreme Court in *Massachusetts v. U.S. Environmental Protection Agency*, determined that GHGs are pollutants that can be regulated under the FCAA. The EPA adopted an endangerment finding and cause or contribute finding for GHGs on December 7, 2009. Under the endangerment finding, the Administrator found that the current and projected atmospheric concentrations of the six, key, well-mixed GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) threaten the public health and welfare of current and future generations. Under the cause or contribute finding, the Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Based on these findings, on April 1, 2010, the EPA finalized the light-duty vehicle rule controlling GHG emissions. This rule confirmed that January 2, 2011, is the earliest date that a 2012 model year vehicle meeting these rule requirements may be sold in the United States. On May 13, 2010, the EPA issued the final GHG Tailoring Rule. This rule set thresholds for GHG emissions that define when permits under the Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. Implementation of the federal rules is expected to reduce the level of emissions from new motor vehicles and large stationary sources.

STATE

California Global Climate Change Regulatory Programs

Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is occurring, and there is a real potential for severe adverse environmental, social and economic effects in the long term. Every nation emits GHGs and, as a result, makes an incremental cumulative

⁸ Ibid.

⁹ United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, August 19, 2010. <http://www.epa.gov/ozone/ods.html>, accessed on November 29, 2012.

contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

Executive Order S-1-07. Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in Assembly Bill 32.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

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

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources and mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The CAT released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through state incentive and regulatory programs.

Executive Order S-13-08. Executive Order S-13-08 seeks to enhance California's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of the State of California's first climate adaptation strategy. This will result in consistent guidance from experts on how to address climate change impacts in the State of California.

Executive Order S-14-08. Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-20-04. Executive Order S-20-04, the California Green Building Initiative (signed into law on December 14, 2004), establishes a goal of reducing energy use in state-owned buildings by 20 percent from a 2003 baseline by 2015. It also encourages the private commercial sector to set the same goal. The initiative places the California Energy Commission (CEC) in charge of developing a building efficiency benchmarking system, commissioning and retro-commissioning (commissioning for existing commercial buildings) guidelines, and developing and refining building energy efficiency standards under Title 24 to meet this goal.

Executive Order S-21-09. Executive Order S-21-09, 33 percent Renewable Energy for California, directs CARB to adopt regulations to increase California's Renewable Portfolio

Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002) which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006) which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Assembly Bill 1493. AB 1493 (also known as the Pavley Bill) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve “the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State.”

To meet the requirements of AB 1493, CARB approved amendments to the California Code of Regulations (CCR) in 2004 by adding GHG emissions standards to California’s existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 and adoption of 13 CCR Section 1961.1 require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty weight classes for passenger vehicles (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily to transport people), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. When fully phased in, the near-term standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards will result in a reduction of about 30 percent.

Assembly Bill 3018. AB 3018 established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC will develop a comprehensive approach to address California’s emerging workforce needs associated with the emerging green economy. This bill will ignite the development of job training programs in the clean and green technology sectors.

Senate Bill 97. SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor’s Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance as described in *CEQA*

Guidelines Section 15064.7 that will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

The Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010.

Senate Bill 375. SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets.

Senate Bills 1078 and 107. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Senate Bill 1368. SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to California, including imported electricity, must be generated by plants that meet the standards set by CPUC and CEC.

CARB Scoping Plan. On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California will implement to reduce CO₂eq emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MT CO₂eq¹⁰ under a business as usual (BAU)¹¹ scenario. This is a reduction of 42 million MT CO₂eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions

¹⁰ Carbon Dioxide Equivalent (CO₂eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

¹¹ "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

In *Association of Irrigated Residents v. California Air Resources Board*, the Superior Court of California for the County of San Francisco (Superior Court) issued a "tentative statement of decision" (Tentative Decision) that prevents CARB from implementing a statewide GHG regulatory program under AB 32 until the agency complies with the requirements of CEQA. The Tentative Decision partially grants a petition for a writ of mandate brought by a coalition of environmental justice organizations (Petitioners) that alleged that CARB's Scoping Plan violated both AB 32 and CEQA. Although the Superior Court denied all claims related to AB 32, the court found that CARB: 1) failed to adequately discuss and analyze the impacts of alternatives in its proposed Scoping Plan as required by its CEQA implementing regulations; and 2) improperly approved the Scoping Plan prior to completing the environmental review required by CEQA. In upholding the Petitioners' challenge on these two CEQA issues, the Superior Court issued a Peremptory Writ of Mandate and enjoined CARB from further implementation of the Scoping Plan until it complies with all CEQA requirements. Parties to the case had 15 days from the issuance of the Tentative Decision to file objections before the Superior Court issued a final decision in the case.

On March 18, 2011, the Superior Court issued its Final Statement of Decision, which is substantially similar to the Tentative Decision. The Superior Court ruled in favor of CARB concerning AB 32 mandates and how to best reach the GHG reduction goals set by AB 32. However, the Superior Court determined that CARB failed to conduct adequate CEQA review for the Scoping Plan. Specifically, the Superior Court concluded that CARB failed to consider adequate alternatives to the mix of measures adopted in the Scoping Plan, including especially alternatives to cap-and-trade measures, and that CARB improperly began implementing the Scoping Plan measures before its CEQA review process was complete. Therefore, the Superior Court has suspended any further implementation of the measures contained in the Scoping Plan until the State has complied with CEQA.

On June 19, 2012, the California First District Court of Appeal ruled in favor of CARB and upheld the Scoping Plan. The decision, which is now final, also found the Scoping Plan to be in compliance with AB 32. The Court determined the entirety of the Scoping Plan "reflects an exercise of sound judgment" and was not arbitrary or capricious. CARB began the cap-and-trade portion of the Scoping Plan on January 1, 2012, and the enforceable compliance obligation began on January 1, 2013.

Northern Sierra Air Quality Management District

The project is under jurisdiction of the Northern Sierra Air Quality Management District (NSAQMD), which regulates air quality according to the standards established in the Clean Air Acts and amendments to those acts. The NSAQMD comprises three contiguous, mountainous, rural counties in northeastern California (Nevada, Sierra and Plumas counties) and regulates air quality through its permitting authority and through air quality related planning and review activities over most types of stationary emission sources.

The NSAQMD has not yet established significance thresholds for greenhouse gas emissions from project operations.

LOCAL

Nevada County General Plan

The Air Quality Element and the Circulation Element of the Nevada County General Plan includes several goals, objectives and policies with respect to GHG emissions and sustainability, including the following:

Air Quality Element

- Policy 14.2: Include the following as part of the Comprehensive Site Development Standards:
- a. Encourage maximized solar access, where feasible, and consistent with the maintenance of scenic values, in new subdivision designs to optimize energy efficiency.
 - b. Require all installations of solid fuel-burning devices comply with the current Federal EPA emission standards.
 - c. Require installation of masonry and zero-clearance fireplaces in new construction to comply with the current EPA Phase particulate emission limits.
- Policy 14.4: Encourage and cooperate with the Northern Sierra Air Quality Management District, or any successor agency, to:
- a. Work with the County, local public utility districts, other public agencies and the private sector to encourage the development and implementation of educational and incentive programs to encourage energy conservation, house weatherization, solar energy use in new and existing buildings, and provide air quality monitoring and advisory programs (e.g. daily standard air pollution index data).
 - b. Develop a community biomass program in cooperation with the Nevada County Department of Sanitation and existing homeowner associations, and provide incentives for composting, mulching, grinding, cogeneration, feedstocks, and chipping in-lieu of outdoor burning.
 - c. Adopt control measures to reduce pollutant emissions from open burning.
 - d. Develop a program to regulate and control fugitive dust emissions from construction projects.
 - e. Identify and establish visibility standards for air quality in the County.
- Policy 14.7: The County shall cooperate with all appropriate agencies and other regional transportation agencies that include surrounding counties to develop programs designed to maximize the participation of employers in employer-operated van pool and/or

ride sharing for employees, and mass transit service for both employees and customers.

Circulation Element

- Goal RD-4.1: Reduce dependence on the automobile.
- Goal RD-4.2: Increase the availability of alternative modes of transportation.
- Goal RD-4.3: Decrease vehicle miles traveled while encouraging increased transit ridership and vehicle occupancy.
- Goal RD-4.4: Encourage land use patterns that reduce the need for new roadways and promote the use of alternative transportation modes.
- Policy RD-4.3.4: Minimize the need to commute by:
- a. Providing for an adequate amount of residential, commercial, and industrial designations in proper balance, as shown on the General Plan Land Use Maps; and
 - b. Encouraging Economic Development and Public Facility policies that support local employment opportunities.
- Goal EP-4.3: To the extent feasible, encourage the reduction of Greenhouse Gas emissions during the design phase of construction projects.
- Goal EP-4.4: To the extent feasible, encourage the development of energy efficient circulation patterns.

Housing Element

- Goal EC-8.1 Provide for a variety of alternative housing options and the use of alternative, innovative, and appropriate technology.
- Goal EC-8.2: To the extent feasible, encourage the reduction of Greenhouse Gas Emissions during the design phase of construction projects.
- Policy EC-8.6.1: Encourage energy efficient site design in new land divisions, particularly in larger subdivisions and planned developments where there is sufficient area for alternate designs as follows:
- a. Encourage lot patterns that maximize proper solar orientation;
 - b. Utilize interconnected streets and traffic calming features to reduce fuel consumption and encourage walkability;
 - c. Provide adequate on-site usable open space and relate the type, amount and location of open space to the types of households expected to occupy the building;
 - d. Include in the project, or locate project within walking distance to (generally, one-quarter to one-half mile), needed amenities such as storage, laundry, community rooms, recycling, childcare facilities, and convenient shopping facilities.

- Policy EC-8.6.3: Promote infill within existing residential neighborhoods and intensify land uses consistent within existing neighborhood or commercial district patterns in developed areas currently served by municipal services.
- Policy EC-8.6.4: In addition to Title 24, Part 6 of the California Code of Regulations, the County shall promote energy efficiency and alternative energy sources for new and rehabilitated housing using incentives and site plan review recommendations, which shall include the following:
- a. Passive solar design to maximize solar energy capture.
 - b. Preservation of native trees that provide shade, reduce energy costs, and slow structural deterioration.
 - c. Incorporation of adequate deciduous tree cover on the south and west side of dwellings and along streets to help reduce the cooling demand during summer months and capture maximum solar energy in winter.
 - d. Maximization of use of daylight and energy-efficient lighting, such as compact fluorescent lighting indoors and LED lighting outdoors.
 - e. Energy-Star rated appliances, solar hot water heating systems, and other plumbing, mechanical, electrical, and solar permits issued for systems that either produce energy or save natural resources, such as wind-generated electrical systems, tankless water heaters, and highly efficient heating, ventilation and air conditioning systems.
 - f. Water conservation features, including reclamation; landscaping appropriate to the site's climate, soils, and water resources; and water-saving irrigation practices.
 - g. Solid waste reduction and recycling.
- Program EC-8.6.5: Adopt a solar access ordinance that establishes development standards for new development to protect the solar access of adjacent properties.
- Policy EC-8.6.5: Continue to strongly support the current housing weatherization programs and Energy Crisis Intervention Program within Nevada County.

City of Grass Valley 2020 General Plan

The Land Use Element of the Grass Valley 2020 General Plan includes several goals and objectives with respect to sustainability and GHG emissions, including the following:

- Goal 2-LUG: Promote infill as an alternative to peripheral expansion where feasible.
- Objective 3-LUO: Reduction in the amount of land necessary to accommodate future growth.

Objective 4-LUO:	Reduction in environmental impacts associated with peripheral growth.
Objective 5-LUO:	Continued revitalization of central Grass Valley.
Goal 5-LUG	Provide for a broad range of housing opportunities, including opportunities for low, moderate and middle income households.
Objective 12- LUO:	Designation of residential building sites sufficient in number and variety to meet projected demand.
Objective 13-LUO:	Provision of sufficient affordable housing units for those working in Grass Valley.
Objective 14-LUO:	Utilization of available programs to promote the construction of affordable housing.
Goal 6-LUG:	Promote a jobs/housing balance within the Grass Valley region in order to facilitate pleasant, convenient and enjoyable working conditions for residents, including opportunities for short home to work journeys.
Objective 15-LUO:	Reduction in the number of vehicle miles driven.
Objective 16-LUO:	An improved quality of life for those working in the Grass Valley Planning Area.

4.6.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would result in significant air quality impacts if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases (e.g., a Local Climate Action Plan).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Greenhouse Gas Emissions

4.6-1 GREENHOUSE GAS EMISSIONS GENERATED BY THE PROJECT WOULD NOT HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The proposed Housing Element Rezone Implementation Program anticipates the development of a maximum 2,675 housing units within the County. Implementation of the additional housing units is expected to result in increased GHG emissions; largely due to increased vehicle miles traveled (VMT), as well as from construction activities, area sources,

energy consumption, water supply and solid waste generation. Increased GHG emissions could contribute to global climate change patterns and the adverse global environmental effects thereof. GHG emissions associated with future developments include CO₂, N₂O and CH₄. Implementation of the additional housing units is not anticipated to generate other forms of GHG emissions in quantities that would facilitate a meaningful analysis.

Project-Related Greenhouse Gas Emissions

The “business as usual” GHG emissions that could occur as a result of implementation of the Housing Element Rezone (2,675 residential dwelling units) have been calculated. As previously stated, “business as usual” refers to emissions that would be expected to occur in the absence of GHG reduction measures. Implementation of the proposed Housing Element Rezone may also result in displacement of up to 840 dwelling units included in the existing Housing Element. Table 4.6-1, *Business As Usual Greenhouse Gas Emissions*, presents the estimated CO₂, N₂O and CH₄ emissions associated with the existing/displaced uses, the proposed 2,675 residential dwelling units, as well as the net increase in GHG emissions. As noted in Table 4.6-1, the majority of GHG emissions are attributable to mobile sources. The total net “business as usual” GHG emissions that could occur as a result of implementation of the proposed Housing Element Rezone are 25,876.93 MTCO₂eq/yr.

**Table 4.6.-1
 Business As Usual Greenhouse Gas Emissions**

Source	CO ₂	CH ₄		N ₂ O		Total Metric Tons of CO ₂ eq ³
	Metric Tons/yr ¹	Metric Tons/yr ¹	Metric Tons of CO ₂ eq ²	Metric Tons/yr ¹	Metric Tons of CO ₂ eq ²	
Existing/Displaced GHG Emissions						
Area Source	1,969.67	0.83	17.43	0.08	24.8	2,012.30
Energy	1,491.49	0.05	1.05	0.03	9.3	1,500.72
Mobile Source	13,242.2	0.04	0.84	0.03	9.3	13,256.47
Waste	78.44	4.64	96.34	0.00	0.00	174.78
Water Demand	121.90	1.68	35.28	0.04	12.4	170.58
Total Emissions³	17,115.85 MTCO₂eq/yr					
Proposed Business As Usual GHG Emissions						
Area Source	6,286.53	2.64	55.44	0.26	80.60	6,422.60
Energy	4,760.33	0.16	3.36	0.08	24.80	4,789.80
Mobile Source	30,641.90	1.57	32.97	0.00	0.00	30,674.91
Waste	250.34	14.79	310.59	0.00	0.00	561.03
Water Demand	389.05	5.35	112.35	0.14	43.40	544.44
Total Project-Related Emissions³	42,992.78 MTCO₂eq/yr					
TOTAL NET GHG EMISSIONS	25,876.93 MTCO₂eq/yr					

Notes:

- 1 – Emissions calculated using CalEEMod computer model.
- 2 – CO₂ Equivalent values calculated using the U.S. EPA Website, *Greenhouse Gas Equivalencies Calculator*, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>, accessed January 2013.
- 3 – Totals may be slightly off due to rounding.

Refer to Appendix E (Greenhouse Gas Emissions Data) for detailed model input/output data.

Due to the amount of development that could occur in the County with implementation of the Housing Element Rezone, it is anticipated that the sum of direct and indirect GHG emissions would conflict with the requirements of AB 32 to reduce statewide GHG emissions. However, it should be noted that the purpose of the project is to rezone property to accommodate the County’s Regional Housing Need Allocation in order to obtain certification

from the California Department of Housing and Community Development (HCD), pursuant to state law. Additionally, the County’s General Plan includes polices which inherently relate to the reduction of GHG emissions. General Plan Goal EC-8.2 encourages the reduction of GHG emissions. Policy EC-8.6.1 encourages energy efficiency site design and Policy EC-8.6.2 supports neighborhood serving retail to reduce vehicle miles traveled. General Plan Policy EC-8.6.4 promotes water conservation and recycling measures.

Attorney General Recommended Measures

The California Office of the Attorney General has established recommended measures for projects to reduce GHG emissions.¹² The proposed project would be consistent with the goals and policies of the County’s General Plan. The General Plan includes several goals and policies related to the reduction of GHG emissions. The California Attorney General’s recommendations comprehensively outline the various categories of reduction measures and provide a framework for the GHG analysis. It is noted that the measures are not necessarily exhaustive and are not utilized as thresholds. Table 4.6-2, *Project Consistency with the Attorney General’s Recommendations*, further describes how General Plan Policies would reduce future development’s GHG emissions.

**Table 4.6-2
Project Consistency with the Attorney General’s Recommendations**

Attorney General’s Recommended Measures	Project Compliance
Smart growth, jobs/housing balance, transit-oriented development, and infill development through land use designations, incentives and fees, zoning, and public-private partnerships.	Compliant. Implementation of the Housing Element Rezone anticipates the development of additional dwelling units. General Plan Policy RD-4.3.3 promotes smart land use patterns to reduce the need to commute by providing for an adequate amount residential, commercial, and industrial designations in proper balance, which inherently results in reduced vehicle trips.
Create transit, bicycle, and pedestrian connections through planning, funding, development requirements, incentives and regional cooperation; create disincentives for auto use.	Compliant. General Plan Goals RD-4.1 through RD-4.4 would reduce dependence on the automobile, decrease vehicle miles traveled while encouraging transit ridership and vehicle occupancy, and encourage land use patterns that promote the use of alternative transportation. General Plan Policy 14.7 requires the County to cooperate with all appropriate agencies and other regional transportation agencies that include surrounding counties to develop programs designed to maximize the participation of employers in employer-operated van pool and/or ride sharing for employees, and mass transit service for both employees and customers.
Energy- and water-efficient buildings and landscaping through ordinances, development fees, incentives, project timing prioritization, and other implementing tools.	Compliant. General Plan Policy 14.2 requires the County to include energy efficiency standards as part of the Comprehensive Site Development Standards. These measures include maximized solar access to optimize energy efficiency. General Plan Policy 14.4 requires cooperation with the Northern Sierra Air Quality Management District to work with the County, local public utility districts, other public agencies and the private sector to encourage the development and implementation of educational and incentive programs to encourage energy conservation, house weatherization, solar energy use in new and existing buildings, and provide air quality monitoring and advisory programs. General Plan Policy EC-8.6.4 includes requirements for water conservation features including reclamation and efficient landscaping.

¹² California Office of the Attorney General, The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level, updated May 21, 2008.

Table 4.6-2, continued

Attorney General's Recommended Measures	Project Compliance
	Additionally Housing Element Program EC-8.6.5 requires the adoption of a solar access ordinance that establishes development standards to protect and maximize solar access in all new residential development. Goal EC-8.1 encourages the innovative design of all land divisions that assist in the development of low- and moderate-cost housing and energy efficient housing. Policy EC-8.6.5 supports the current housing weatherization programs and Energy Crisis Intervention Program within Nevada County. Policy EC-8.6.1 also includes incentives to promote alternative energy sources.
Waste diversion, recycling, water efficiency, energy efficiency and energy recovery in cooperation with public services districts and private entities.	Compliant. General Plan Policy 3.2.4 requires the County to continue to implement the County Integrated Waste Management Plan, which requires recycling in accordance with State law. Additionally, Policy EC-8.6.4 includes requirements for site plan review which ensure that projects include solid waste reduction and recycling.
Urban and rural forestry through tree planting requirements and programs; preservation of agricultural land and resources that sequester carbon; heat island reduction programs.	Compliant. General Plan Policy 13.2 includes requirements to minimize the removal of trees and existing vegetation. Individual trees or groups of trees are required to be protected during construction to prevent damage to the trees and their root systems. Policy 13.3 requires landscaping with native trees and shrubs
Regional cooperation to find cross-regional efficiencies in GHG reduction investments and to plan for regional transit, energy generation, and waste recovery facilities.	Compliant. Refer to responses above.

Source: California Office of the Attorney General, *Sustainability and General Plans: Examples of Policies to Address Climate Change*, updated January 22, 2010.

Conclusion

The County's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the policies in the General Plan, as well as compliance with federal, state, and local regulations would avoid or reduce their incremental contribution to the significant worldwide increase in GHG emissions. However, for some projects, it is possible that adherence to General Plan policies may not adequately avoid or reduce incremental impacts, and such projects would require additional mitigation measures. For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing programs, plans, and regulations), project-specific measures would be identified with the goal of reducing incremental project-level impacts to less than significant, or the incremental contributions of a project may remain significant and unavoidable where no feasible mitigation exists. Where mitigation is determined necessary and feasible, these measures would be included in a Mitigation Monitoring and Reporting Program for the project. The measures may be updated, expanded and refined when applied to specific future projects based on project specific design and changes in existing conditions, and local, state, and federal laws.

It should be noted that the emissions modeled in Table 4.6-1 are for the aggregate total of 18 candidate sites assuming the maximum development potential. Additionally, one of the site selection criteria was the proximity to local services. The project would also increase density. Both the increase in density and proximity to local services would have lower VMT than less dense development, thereby reducing vehicle emissions. Environmental review of future projects within the candidate sites as part of the Housing Element Rezone Implementation

Program may require additional project-specific mitigation to reduce project impacts to less than significant levels. Due to the substantial amount of development that would be accommodated by the proposed Housing Element Rezone, GHG emissions would be significant and unavoidable.

Although implementation of General Plan policies would reduce project-related GHG emissions, GHG reductions as a result of these policies have not been quantified. Currently, there are no specific development proposals associated with the proposed Housing Element Rezone. Therefore, the degree and extent of future project compliance with the General Plan policies and implementation measures is not yet known and the project details necessary to calculate emission reductions are not available at this time. Future development associated with implementation of the Housing Element Rezone would need to be analyzed on a project-by-project basis to determine the extent of each project's potential contribution to global climate change and appropriate mitigation measures specific to each project. Thus, at this stage of analysis, GHG impacts associated with implementation of the Housing Element Rezone would be significant and unavoidable.

General Plan Goals and Policies: Refer to General Plan Goals RD-4.1 through RD-4.4, EP-4.3, EP-4.4, and EC-8.2, and Policies RD-4.3.4, 14.2, 14.4, and 14.7.

Mitigation Measures: No additional mitigation has been identified.

Level of Significance After Mitigation: Significant and Unavoidable Impact

Consistency with Applicable GHG Plans, Policies, or Regulations

4.6-2 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT CONFLICT WITH AN APPLICABLE GREENHOUSE GAS REDUCTION PLAN, POLICY, OR REGULATION.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

The County does not currently have an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, the proposed project would not conflict with an adopted plan, policy, or regulation pertaining to GHGs. However, the Nevada County General Plan includes Goals EP-4.3, EP-4.4 and EC-8.2, which require the reduction of GHG emissions. Additionally, Program EC-8.6.8 within the Housing Element prioritizes funding for affordable housing for projects that provide cost-effective energy efficiency measures that exceed state standards and reduce GHG emissions, such as the use of recycled and green building materials. The future development of 2,675 dwelling units would be required to comply with the applicable measures of the General Plan. Thus, a less than significant impact would occur in this regard.

General Plan Goals and Policies: Refer to General Plan Goals RD-4.1 through RD-4.4, EP-4.3, EP-4.4, and EC-8.2, and Policies RD-4.3.4, 14.2, 14.4, and 14.7, and Program EC-8.6.8.

Mitigation Measures: No additional mitigation has been identified.

Level of Significance After Mitigation: Less Than Significant

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4.7 CULTURAL RESOURCES

This section evaluates potential impacts to cultural resources that could result from implementation of the proposed project. The description of the affected environment, analysis of impacts and recommended mitigation is based on information from the *Cultural Resource Inventory, Nevada County Housing Element Rezone EIR Project*, prepared by Peak & Associates, Inc. on January 2013, which is included in Appendix D.

4.7.1 ENVIRONMENTAL SETTING

PREHISTORIC SETTING

Until relatively recent years, the study of Sierran archaeology lagged far behind the central valley and coastal areas in terms of developing a regional chronology and basic understanding of the prehistory of the area. In 1953, however, scientists began to synthesize Sierran archaeology and proliferated major archaeological projects due to work on water projects and other cultural resource management-based research efforts. Since then, there have been several archaeological reconnaissance surveys conducted in the Auburn Reservoir area, one of which is the Spring Garden Ravine site (CA-Pla-101) that will be useful for this analysis since the site contains three well-defined strata (Ritter 1970b).

The lowest stratum (C) has been radiocarbon dated at about 1400 B.C., and contains an assemblage similar to the Martis Complex, as defined at high-elevation sites in the Sierra. The artifacts include large projectile points (mostly of basalt and slate), atlatl (dart-thrower) weights, numerous core tools, and several varieties of grinding implements. The collection looks typical to the Martis Valley, as there was an emphasis on small game hunting and plant gathering, which allowed for the existence of more permanent villages in ecologically rich areas. The next stratum (B) is less easily defined, and appears to represent a transition between cultures represented by the upper and lower strata. Some of this transitional appearance may be attributable to the physical mixing of deposits; however, the basic integrity of the site is consistent with the two radiocarbon dates from stratum B (A.D. 1039±80 and 976±90). The upper stratum contains small projectile points (arrowheads), hopper mortars, and other artifacts comparable to recent archaeological collections elsewhere in the northern foothills. Stratum A is, therefore, most likely a manifestation of the ancestral Nisenan, the Indian group inhabiting the area at the time of Euro-American contact.

ETHNOGRAPHIC SETTING

The County of Nevada and specifically the proposed project area (Grass Valley, Penn Valley, and Lake of the Pines) lies within the ethnographic territory of the Nisenan, or Southern Maidu. The Nisenan occupied the upper drainages and the adjacent ridges of the Yuba, the north, middle and south forks of the American, and at least the upper north side of the Cosumnes River. The territory is conventionally believed to extend to the crest of the Sierra to the east and the Sacramento River to the west.

Nisenan has three main dialects – Northern Hill, Southern Hill and Valley Nisenan, with three or four subdialects. The Hill Nisenan lived along the foothills of the Sierra Nevada, primarily in small villages with family groups living outside the area of the main village. The main village had a reported dance house, Tuyi, and was located in the Grass Valley area, although the exact location has not been matched to a known archaeological site. The

Nisenan were socially integrated at the village or community group level, with the group participating in the decision-making process. The villages would range in size from 15 to 25 people to over 500 people in the Valley Nisenan. A headman, respected by all and residing in the major village, had the authority to call upon the smaller associated groups in times of need, although the smaller groups did not always have to obey.

The Nisenan, as with other Sierra Native American groups, moved into the higher elevations during the hot summer months. The main activity was the collecting of pine nuts and numerous other species of nuts, roots and berries. This was done primarily by women and children. The foraging groups in a locale could range from small, extended family groups, composed of a woman, her immediate female kin and their adolescent children to whole villages. The men spent most of their time hunting or fishing for a wide variety of fish and animals. Hunting was noted as often involving communal drives, with the best archers of the village posted to do the killing. Individual hunters made extensive use of decoys and imitative sounds.

Most Nisenan people never left the territory used by their own village group. However, there were, in most large villages, at least some individuals who engaged in rather extensive trade with several valley groups as well as Sierra groups, such as the Washo. The Hill Nisenan most likely acquired obsidian and basketry from the east, in exchange for acorns from the Washo, but it is presently unclear whether they were visited by the Washo or they visited the Washo or both. Presumably, the exchange network functioned in the summer and fall.

HISTORIC SETTING

The 1848 discovery of gold at Coloma in El Dorado County brought thousands of people to northern California seeking their fortunes. A number of small towns were developed to provide goods and services to the miners. Some of the towns died off almost as quickly as they developed, as the mining played out and the population shifted to other locations. Other communities, such as Grass Valley and Nevada City, became important regional service centers, continuing to serve Nevada County.

The 1833 malaria epidemic that decimated the Indians in the Central Valley played a major role in defining the post-Contact land use pattern of the Indians of the region, as well as impacting Euro-American economic development. The introduction of malaria to central California circa 1831 occurred as a result of expeditions of several fur brigades of the Hudson's Bay Company with infected individuals. The introduction of the disease led to the tremendous epidemic of 1833 that decimated the Indian population of the region. Of the total Indian population of the region, an estimated 75 percent died from the disease in that year. Malaria was epidemic in the mining camps of the Sierra foothill region, and remained endemic, with frequent sharp local outbreaks throughout the Central Valley until about 1880.

The proposed project areas lie in part within one of the major early mining districts of the state, the Grass Valley Mining District. In 1848, gold was discovered on Wolf Creek near Grass Valley. Although the placer mines were soon exhausted, quartz lodes were discovered that would support a very active mining industry for the next century. Grass Valley was named for the well-watered valley in which it lies in 1849. The starving cattle from a party of emigrants from the Truckee Pass Trail strayed from their camp and were found the next morning enjoying the abundant grass and water of the meadow.

The Gold Hill and Allison Ranch mines were the top producers in the early days, but others soon eclipsed them, particularly the Idaho-Maryland, Empire, North Star, Pennsylvania and

W.Y.O.D. Nearly four thousand miners were employed in the Grass Valley District during the Depression era and early World War II. The mines were closed during the war, but most of the larger mines in the district, in contrast to most gold mines in California, reopened after the war. The Idaho-Maryland group did not stop gold mining until 1956 and the gold mining era finally ended the following year when the Empire-Star group ceased production. Estimates of total production are not very accurate, but it is estimated that the lode mines of the Grass Valley District produced “at least” three hundred million dollars, with placer mines adding a few million more. The estimated production for the Coe Mine, the lode mine nearest the Grass Valley Sites 2 through 9, was \$500,000. Penn Valley was the site of some early mining efforts (nearest Sites 10-13) that transitioned to farms after the mining ceased.

PALEONTOLOGICAL SETTING

Paleontological resources are the fossilized remains of plants and animals. The age and abundance of fossils depend on the location, topographic setting and particular geologic formation in which they are found. Fossils generally occur in the Sierra Nevada in rocks that are young in age (less than 50 million years). According to the University of California, Museum of Paleontology, the closest fossil sites to the proposed project sites are a few miles to the east and north of Grass Valley.

4.7.2 CULTURAL RESOURCES WITHIN THE PROJECT AREA

Peak & Associates conducted a records search for the project parcels at the North Central Information Center (NCIC) of the California Historical Resources Information System. The purpose of the research was to determine what parcels, or portions thereof, had been surveyed for cultural resources in the past and the resources that had been recorded. Several published texts were also consulted for information on sites of recognized significance. None of the sites being considered for the proposed project are areas registered on the National Register of Historic Places or California Historical Landmarks. The results from the research conducted by Peak & Associates are summarized by area and project site below.

GRASS VALLEY AREA

Site 1: 07-380-17 – No previous surveys or sites were recorded on the property, although there have been numerous surveys nearby. McCourtney Road, which is the western boundary of the parcel, has been recorded as P-29-1518-H.

Site 2: 29-350-12 – There have been three surveys conducted on portions of this site, which together, encompass the entire parcel. The surveys identified a stamp mill just east of the parcel, an abandoned ditch near the southern boundary of the parcel and various mining-related features in the project area (P-29-1478, 1479, 1481, 1484, 2363).

Sites 3, 4, and 5: 35-412-15, 35-412-17, & 35-412-18 – These parcels were previously surveyed together by a Registered Professional Forester and an archaeologist who covered the full area of the parcels. There was a small ditch on the western and southern edges of the parcels recorded as P-29-859, and Brunswick Road, P-29-1516-H, bordering the east.

Site 6: 35-412-19 – The parcel borders Sites 3, 4, and 5, and was surveyed by the same group. The survey reported a ditch near the western boundary, P-29-859, and Brunswick Road on the east, P-29-1516-H.

Site 7: 35-412-21 – The parcel is east of Brunswick Road and north of Idaho Maryland Road. A survey was conducted along the latter, but just in the immediate area of the road.

Essentially, none of the parcel has been surveyed. There are no recorded sites within the parcel.

Site 8: 35-550-15 & 35-412-20 – No previous surveys or sites were recorded on the properties.

Site 9: 35-412-16 – No previous surveys or sites were recorded on the properties.

PENN VALLEY AREA

Sites 10 and 11: 51-150-29 – Both properties were surveyed in 1999 and do not have cultural resources present.

Site 12: 51-151-62 – This site was surveyed in 1991 and does not have cultural resources present.

Site 13: 51-370-02 – The property was covered in full through three different surveys in 1992, 2002, and 2011. No cultural resources were found on the site, however, a bedrock mortar site with associated midden was recorded nearby.

LAKE OF THE PINES AREA

Site 14: 57-141-29 – A survey has not been conducted on this site and no resources have been recorded. A survey of the adjacent CDF fire station recorded the existing features and nothing else.

Site 15: 57-270-02 – A survey has not been conducted on this site and no resources have been recorded.

Site 16: 57-270-03 – An old survey had covered most of the parcel with negative results, however, the report could not be located and would need to be redone due to the age of the analysis.

Site 17: 57-270-06 – A survey has not been conducted on this site and no resources have been recorded. The property just south of Site 17 has been surveyed and has no recorded cultural resources present.

Site 18: 11-181-03 – Survey and test excavations have been conducted on this property as part of the Dark Horse development in 1996, 1998, and 1999. A prehistoric cultural resource (CA-NEV-604) was recorded and tested on this site. Upon evaluation, it was not deemed eligible for the NRHP.

4.7.3 REGULATORY SETTING

FEDERAL FRAMEWORK

National Historic Preservation Act of 1966 (16 U.S.C. 470)

The National Historic Preservation Act (NHPA) is the most comprehensive national policy on historic preservation. The NHPA, which is designed to encourage the preservation and wise use of our historic resources, establishes the policy of the U.S. Government regarding historic preservation. The NHPA defines historic preservation to include "the protection, rehabilitation, restoration and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, or culture." Section 106 of the NHPA requires federal agencies to "take into account" the effect of their undertakings (projects) on historical and archaeological resources. Undertakings are projects funded or permitted by a federal agency. The National Register of Historic Places (NRHP), which is maintained by the National Park Service (NPS), is a compilation of cultural resources that

have been nominated and accepted as having historic, architectural, archaeological, engineering or cultural significance, at the national, state or local level.

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 codifies the generally accepted practice of limited vertebrate fossil collection and limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

STATE FRAMEWORK

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is a statewide program that is similar in scope to the National Register. It consists of a compilation of cultural resources that are significant within the context of local, California, or national history, but not necessarily history germane to other states. All resources listed in or formally determined eligible for the National Register are also eligible for the California Register, as are properties designated under municipal or county ordinances.

California Environmental Quality Act (CEQA)

The CEQA Statute and Guidelines include procedures for identifying, analyzing, and disclosing potential adverse impacts on historical resources, which include all cultural resources (archaeological sites and historical buildings, structures and objects) listed in or formally determined eligible for the National Register, the California Register, or listed in a local (county or municipal) register of historical resources. CEQA requires agencies that finance or approve public or private projects to assess the effects of the project on historical resources. If a project results in significant effects on important cultural resources, alternative plans or mitigation measures must be considered. However, only significant cultural resources (historical resources, as defined by CEQA) need to be addressed.

California Public Resources Code

California Public Resources Code Section 5097.5 prohibits excavation or removal of any “vertebrate paleontological site, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.” Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 also states that any unauthorized disturbance or removal of archaeological, historical or paleontological materials or sites located on public lands is a misdemeanor. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Section 5097.98 of the California Public Resources Code prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn, and sets penalties for such acts. Additionally, Section 5097.98, as amended by Assembly Bill 2641, states:

- (a) Whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of

the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

- (b) Whenever the commission is unable to identify a descendent, or the descendent identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendent and the mediation provided for in subdivision (k) of Section 5097.94 fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall re-inter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.

LOCAL FRAMEWORK

Nevada County 1995 General Plan

The County of Nevada 1995 General Plan (1995 General Plan) includes a Cultural Resources Element, which contains several goals, objectives and policies designed to preserve and protect cultural resources within the County.

- | | |
|----------------|--|
| Goal 19.1 | Identify and protect and where economically feasible restore significant archaeological and historic resources. |
| Objective 19.1 | Encourage the inventory, protection and interpretation of the cultural heritage of Nevada County, including historical and archaeological landscapes, sites, buildings, features, artifacts. |
| Policy 19.2 | Encourage the inclusion of significant sites or districts in the Federal or State Historical Register based on the recommendation of local historical societies. |
| Policy 19.3 | Encourage and cooperate with the private sector in the implementation of innovative techniques intended to preserve archaeological and historic sites by gift, private conservancies and easements. |
| Objective 19.2 | Implement development standards, including the preservation of open space, to protect identified significant cultural sites. |
| Policy 19.4 | Incorporate cultural and historic resource management standards in the Comprehensive Site Development Standards, for use in project review of all discretionary project permits. These standards shall provide for the use of clustering and restricted building sites as techniques for the preservation of significant cultural resources. |

- Policy 19.5 In order to maintain a definition of community character and enhance local economies and tourism through adaptive reuse, include guidelines for preservation, maintenance and enhancement of the exterior design elements of structures and districts of local historic or architectural interest, as part of the Nevada County Community Design Guidelines.
- These guidelines shall encourage and provide for the adaptive reuse of historic buildings in order to preserve such buildings and to enhance local economies. The guidelines shall be advisory in nature and integrated with the Comprehensive Site Development Standards in the project review process.
- Policy 19.6 Require all applications for discretionary project permits, and all applications for ministerial project permits except single family residences on individual lots shall be accompanied by a Site Sensitivity Literature Review, prepared by a qualified archaeologist or entity such as the North Central Information Center, Department of Anthropology, California State University at Sacramento.
- Where review indicates significant archaeological or historical sites or artifacts are, or are likely, present, on-site field review shall be required. If a site or artifacts are discovered, the find shall be evaluated and potential significance determined. If significant cultural resources may be directly or indirectly impacted by proposed development, appropriate mitigation shall be developed and implemented in accordance with California Environmental Quality Act standards, including Appendix K, prior to onset of ground disturbance. Avoidance of significant cultural resources shall be considered the mitigation priority. Excavation of such resources shall be considered only as a last resort when sufficient planning flexibility does not permit avoidance. On-site field review, evaluation of site significance, and development of mitigation measures, as identified above, shall be performed by a qualified professional archaeologist.
- Objective 19.3 Include in the development review process consideration of historic, cultural, and Native American concerns and values.
- Policy 19.7 Cooperate with local historical societies and the Native American Indian community to protect significant historical, cultural and archaeological artifacts, improve access to and interpretation of unrestricted resources and archaeological history by involving them in the development review process.

City of Grass Valley 2020 General Plan

The City of Grass Valley 2020 General Plan (2020 General Plan) includes a goal and several objectives and policies designed to preserve and protect cultural resources within the City. The following lists the 2020 General Plan goal, objectives, and policies regarding preservation and protection of cultural resources that are relevant to Sites 1-9 of the proposed project parcels.

Goal 1-HG	Conserve and enhance the historical identity of Grass Valley.
Objective 2-HO	Preservation of buildings of historic and/or architectural merit.
Policy 3-HP	Establish appropriate design standards and elements that complement Grass Valley's historic heritage in newly developing areas.
Policy 4-HP	Enhance the appearance of City entryways, commercial areas, and streetscapes, in part through the use of elements in the design standards that complement Grass Valley's historic heritage.
Policy 8-HP	Investigate and implement procedures to protect historic structures from demolition.
Policy 10-HP	Where historic and prehistoric cultural resources have been identified, the City shall require that development be designed to protect such resources from damage, destruction, or defacement.
Policy 11-HP	If previously undiscovered cultural resources or human remains are encountered during construction or excavation, the procedures identified in Section 15064.5 of the CEQA Guidelines shall be followed.

4.7.4 ENVIRONMENTAL ANALYSIS

A pedestrian survey of the 18 sites forming the proposed project area was undertaken by Peak & Associates in June 2012. The survey was designed to be limited in nature with complete photography and plotting of historic and prehistoric resources, but only the recordation of prehistoric period sites. All existing buildings and artifacts were noted, but have not yet been evaluated for their historic significance by the National Register of Historic Places. The impact analysis below includes both previously identified historic and prehistoric resources in the area, and newly identified prehistoric resources found in the recent survey results conducted in June.

In addition to the pedestrian survey, the Native American Heritage Commission (NAHC) conducted a Sacred Lands File review for the eighteen proposed project sites on May 16, 2012. According to the NAHC, no information concerning sacred lands or cultural resources is on file with them for any of the parcels.

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, there would be a significant impact on cultural resources if the proposed project could:

- Potentially result in the damage or destruction of unique archaeological resources, as defined by Public Resources Code § 21083.2(g), and historical resources, as defined by CEQA Guidelines § 15064.5(a).
- Potentially result in the damage or destruction of unknown paleontological resources.
- Potentially result in the damage or destruction of unknown archaeological resources, including human remains.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Historic and Prehistoric Resources

4.7-1 THE PROPOSED PROJECT COULD POTENTIALLY RESULT IN THE DAMAGE OR DESTRUCTION OF UNIQUE ARCHAEOLOGICAL RESOURCES, AS DEFINED BY PUBLIC RESOURCES CODE § 21083.2(G), AND HISTORICAL RESOURCES, AS DEFINED BY CEQA GUIDELINES § 15064.5(A).

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

According to the research conducted by Peak & Associates, there are previously recorded historic-era resources on seven sites, and one previously recorded pre-historic era resource on Site 18, in the Lake of the Pines area. The previously recorded pre-historic era resource was also previously tested and found to lack any associated artifact deposit, thus, the resource is not eligible for the National Register of Historic Places. Any historic-era features discovered during the field survey were noted, but have not yet been formally recorded as a historic resource with the North Central Information Center. The future development of these sites will require a formal evaluation with the North Central Information Center, and possible mitigation. Two newly identified pre-historic era resources were found and recorded on Sites 7 and 13 during the field inspection conducted by Peak & Associates.

The following summary provides the results of the record search and field survey of each of the project sites. The survey results indicate whether the property has any previously recorded historic or prehistoric features as a result of a record search at the North Central Information Center. The field survey documented whether any potential or historic or prehistoric features were noted onsite. Prehistoric and historic resources that were found during the field survey are outlined by site and area below. Tables 4.7-1, *Historic Resources by Area*, and 4.7-2, *Pre-historic Resources by Area*, summarize previously recorded and the potential for additional resources by site.

GRASS VALLEY AREA

Site 1: 07-380-17 – No prehistoric or historic period resources were observed during the field inspection. However, McCourtney Road, which is the western boundary of the parcel, has been previously recorded as P-29-1518-H.

Site 2: 29-350-12 – Thirteen historic period prospect pits were observed in the non-logged portion of the parcel. No prehistoric period resources were present.

Site 3: 35-412-15 – Prehistoric period resources were not observed on the site. Previously identified historic resources, Brunswick Road (P-29-1516-H), and a small ditch (P-29-859-H), have already been recorded. A small drainage located along the southern boundary also appeared to be utilized by the Nevada Irrigation District to transfer water.

Site 4: 35-412-17 – Previously identified resource (P-29-859-H), a small ditch, was recorded along the western portion of the parcel. Approximately a half dozen tent encampments and one wood pole structure were located on the parcel in various locations. No prehistoric period resources were observed during the inspection.

Site 5: 35-412-18 – Site P-29-1516-H, Brunswick Road, bordered the parcel along the eastern side. No prehistoric period resources were observed during the inspection.

Site 6: 35-412-19 – A tent encampment was located in the eastern portion of the site. A ditch near the western boundary (P-29-859), and Brunswick Road (P-29-1516-H) were previously recorded on the borders of the parcel. No prehistoric period resources were observed during the inspection.

Site 7: 35-412-21 – A small drainage located along the southern boundary appeared to be utilized by the Nevada Irrigation District to transfer water. The frame of a 1930s era touring car is located near the center of the parcel, adjacent to an abandoned roadway that transects the parcel in an east/west orientation. Previously recorded site P-29-1516-H, Brunswick Road, bordered the parcel along the western side.

A prehistoric resource, PA-12-20, was found during the field inspection. The resource consisted of a large-flat topped metavolcanic boulder with seventeen mortar cups on its surface. There were no artifacts found in association with the bedrock mortar feature. The feature is located about 30 feet west of a small, intermittent drainage.

The prehistoric period food processing feature was recorded to current standards and the Department of Recreation 523 Series forms, sketch and location maps are in the confidential appendices of Appendix F.

Site 8: 35-550-15 & 35-412-20 – Prehistoric period sites were not found during the inspection. Areas of scattered tailings in the western third of APN 35-550-15 and eastern portion of APN 35-412-20 were found. Three buildings on the 35-550-15 portion of the site were found. One building was estimated as a 1940s era small cabin, another as a 1950s era residence, and another as a 1960s era residence.

Site 9: 35-412-16 – Prehistoric period sites were not found during the field inspection. One ditch was found along the southern boundary of the site, along with the remains of an old wire fence paralleling the ditch. These resources might indicate Nevada Irrigation District use at some point, but is now abandoned.

PENN VALLEY AREA

Site 10: 51-120-06 – The property had no historic or prehistoric resources present.

Site 11: 51-150-29 – Three concrete pads, a concrete foundation, and a concrete-lined well were found on the property. One of the three concrete pads looked to have once had a home, while the other two appeared to be a garage and outbuilding, respectively. The concrete foundation was raised and appeared to pre-date the three concrete pads and concrete lined well. No prehistoric period resources were observed during the field inspection.

Site 12: 51-151-62 – No prehistoric or historic resources were observed during the field inspection.

Site 13: 51-370-02 – A prehistoric resource was identified (PA-12-21) and was recorded to current standards and the Department of Parks and Recreation 523 Series forms, which are kept confidential. The newly identified resource is a small, granatic boulder with a single mortar cup. There were no artifacts found in association with the bedrock mortar feature. The source is located about 50 feet east of a small, intermittent drainage.

LAKE OF THE PINES AREA

Site 14: 57-141-29 – The property slopes moderately down to the south and comprises five acres of oak parkland with rare bedrock exposures located primarily in the northern portion of the property. All bedrock boulders were inspected carefully for signs of grinding or rock art, but no such indications were observed. No signs of occupation in the historic or prehistoric periods were observed.

Site 15: 57-270-02 – The property is fairly level on the east portion of the site, then slopes sharply down to the west. There are two permanent structures on the property, a residence and a barn. Both the residence and barn are of recent construction. No indication of prehistoric use or habitation on the property was observed.

Site 16: 57-270-03 – No signs of prehistoric occupation or use were observed. A modern barn exists on the property, adjacent to a county water treatment facility. No evidence of earlier structures was observed.

Site 17: 57-270-06 – The only signs of historic use of the property were recent: a fence and gate on Rosewood Road, a metering well near the western boundary and a small wood-cutters camp on the eastern boundary. These sites are not considered historic since they are of recent construction. There were no indications of prehistoric occupation or use.

Site 18: 11-181-03 – There are no structures on the parcel or any indication of previous historic occupation. There is a previously recorded archaeological site on the property, CA-NEV-604, consisting of two widely separated boulders with a total of six mortars situated on the south facing slope of a hill on the southern portion of the parcel. The resource was previously recorded and tested and found to lack any associated artifact deposit, thus, the resource is not eligible for the National Register of Historic Places.

**Table 4.7-1
Historic Resources by Area**

Site/Project Area	Previously Recorded Historic Site(s)	Potential for Historic Resources?
Grass Valley SOI		
Site 1	Yes	No
Site 2	Yes	Yes
Site 3	Yes	Yes
Site 4	Yes	Yes
Site 5	Yes	Yes
Site 6	Yes	Yes
Site 7	Yes	Yes
Site 8	No	Yes
Site 9	No	Yes
Penn Valley Area		
Site 10	No	No
Site 11	No	Yes
Site 12	No	No
Site 13	No	No
Lake of the Pines Area		
Site 14	No	No
Site 15	No	No
Site 16	No	No
Site 17	No	No
Site 18	No	No

There are three recorded prehistoric sites within the proposed project area, including one site that was previously identified and two newly identified. Table 4.7-2, *Prehistoric Resources by Area*, summarizes the location of the recorded resources by area.

**Table 4.7-2
 Prehistoric Resources by Area**

Project Area	Previously Recorded Prehistoric Site	Potential for Prehistoric Resources
Grass Valley SOI		
Site 1	No	No
Site 2	No	No
Site 3	No	No
Site 4	No	No
Site 5	No	No
Site 6	No	No
Site 7	No	Yes
Site 8	No	No
Site 9	No	No
Penn Valley Area		
Site 10	No	No
Site 11	No	No
Site 12	No	No
Site 13	No	Yes
Lake of the Pines Area		
Site 14	No	No
Site 15	No	No
Site 16	No	No
Site 17	No	No
Site 18	Yes*	No

*Note: Site 18 has a previously recorded archaeological site on the property that has already been tested, but was found to lack any associated artifact deposit, thus is not eligible for the National Register of Historic Places.

Potentially significant cultural resources were identified on Sites 2, 3, 7, 8, 9, 11 and 13. These areas were included within Environmentally Sensitive Areas (ESAs) as shown in Figures 3-15 through 3-24 in Chapter 3.0 of this EIR. Areas identified as ESAs must be avoided during project construction. Cultural resources within the protection of the ESAs are considered to be avoided and no further evaluation for recorded historic and prehistoric sensitivity is required. Without the implementation of ESAs on Sites 2, 3, 7, 8, 9, 11 and 13, potential impacts to recorded isolated historic and prehistoric resources would be considered a significant impact under CEQA.

Mitigation Measures:

The following mitigation measure pertains to Sites 2, 3, 7-9, 11, and 13.

- 4.7-1 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):
 - Establish areas with potentially significant cultural resources as Environmentally Sensitive Areas consistent with the mapped areas in Figures 3-15 through 3-24 of this EIR. Prior to construction, all potential prehistoric and historic resources shall be designated as an ESA on project plans and specifications. No construction shall be permitted within the ESAs.

Level of Significance After Mitigation: Less Than Significant Impact

Paleontological Resources

4.7-2 THE PROPOSED PROJECT COULD POTENTIALLY RESULT IN THE DAMAGE OR DESTRUCTION OF UNKNOWN PALEONTOLOGICAL RESOURCES.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Although no paleontological resources are known to exist on any of the proposed project sites, the presence of unknown paleontological resources cannot be ruled out because the presence of paleontological resources is often not determined until grading and excavation activities begin. Ground-disturbing activities have the potential to damage or destroy unknown paleontological resources. Implementation of Mitigation Measure 4.7-2, identified below, would reduce potential impacts on paleontological resources to less than significant.

Mitigation Measure:

The following mitigation measure applies to all sites.

- 4.7-2 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall provide, to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9), a letter from a qualified paleontologist that states the following:

Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work in the immediate vicinity shall be halted or diverted to other areas on the site and the County (or City as applicable) shall be immediately notified. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered paleontological resources. The County (or City as applicable) and the project developer shall consider the recommendations of the qualified paleontologist. The County (or City as applicable), the qualified paleontologist, and the project developer shall consult and agree upon implementation of a measure or measures that the County (or City as applicable), the qualified paleontologist, and the project developer deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by the project developer, qualified paleontologist, and the County (or City as applicable), as well as the Native American tribal representative if relevant, as to the appropriate preservation or mitigation measures.

Level of Significance After Mitigation: Less Than Significant Impact.

Unanticipated Discovery

4.7-3 THE PROPOSED PROJECT COULD POTENTIALLY RESULT IN THE DAMAGE OR DESTRUCTION OF UNKNOWN ARCHAEOLOGICAL RESOURCES, INCLUDING HUMAN REMAINS.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

There is a possibility that unrecorded cultural resources, including human remains, are present beneath the ground surface and that such resources could be exposed during the construction of future development projects allowed within the proposed project area. The following mitigation would reduce potential adverse impacts to less than significant.

Mitigation Measure:

The following mitigation measure applies to all sites.

- 4.7-3 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall provide, to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9), a letter from a qualified archaeologist that states the following:
- A. The project developer shall retain a qualified archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, to monitor all initial ground-disturbing activities in native soils or sediments, including all vegetation removal. If no cultural resources are identified during this phase of ground disturbance, and if determined between the qualified archaeologist and the lead agency, monitoring may be reduced to on-call status. If any prehistoric or historic artifacts or other indications of archaeological resources are found during site grading or once project construction is under way, the on-site monitor shall be empowered to temporarily halt or divert construction in the immediate vicinity of the discovery while it is evaluated for significance, and the County (or City as applicable) shall be immediately notified. Construction activities could continue in other areas. The archaeologist shall evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered cultural resources. The County and the project developer will consider the recommendations of the qualified archaeologist. The County (or City as applicable), the qualified archaeologist, and the project developer shall consult and agree upon implementation of a measure or measures that the County, the qualified archaeologist, and the project developer deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by the project developer, the qualified project archaeologist, and the lead agency as to the appropriate preservation or mitigation measures.

- B. Should cultural resources, other than human remains, be discovered during construction activities when an archaeological monitor is not present, project personnel shall halt such activities in the immediate area and notify a qualified archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology immediately to evaluate the resource(s) encountered and recommend the development of mitigation measures for potentially significant resources consistent with PRC Section 21083.2(i). Construction activities could continue in other areas. The archaeologist shall evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered cultural resources. The County (or City, as applicable) and the project developer will consider the recommendations of the qualified archaeologist. The County (or City, as applicable), the qualified archaeologist, and the project developer shall consult and agree upon implementation of a measure or measures that the County (or City, as applicable), the qualified archaeologist, and the project developer deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by the project developer, the qualified project archaeologist, and the lead agency, as well as the Native American tribal representative if relevant, as to the appropriate preservation or mitigation measures.

Should the discovery include Native American human remains, in addition to the required procedures of Health and Safety Code Section 7050.5, PRC Section 5097.98 and California Code of Regulations (CCR) Section 15064.5(e), all work must stop in the immediate vicinity of the find and the Nevada County Coroner must be notified. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Sections 15064.5(d) and (e) shall be followed.

Level of Significance After Mitigation: Less Than Significant Impact

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4.8 GEOLOGY AND SOILS

This section describes the geologic and seismic conditions within the proposed project area and evaluates the potential geologic hazards, and/or seismic impacts that could result from implementation of the proposed project. Mitigation measures for potential impacts are identified where applicable. This section summarizes the *Preliminary Geotechnical Engineering Report* for the *Nevada County Housing Element Rezone* prepared by Holdrege & Kull (H&K) on June 8, 2012 and an addendum dated December 28, 2012 and included in Appendix G.

4.8.1 ENVIRONMENTAL SETTING

REGIONAL GEOLOGY

The Housing Element rezone sites are generally located in the Sierra Nevada Foothills, on the western side of the Sierra Nevada geomorphic province. The Sierra Nevada province is an elongate, north-west/south-east trending structural block that is tilted upward to form a steep scarp above the adjacent Basin and Range province to the east. The western slope of the Sierra Nevada dips gently westward, and extends beneath sediment of the Great Valley province. Sediment within the Great Valley is derived from continual uplift and erosion of the Sierra Nevada. Since the proposed project sites cannot be summarized in one geologic summary, geologic descriptions are provided by site or in groups of similar sites below.

SITE GEOLOGY

The Geologic Map of the Chico Quadrangle, California; the California Mineral Land Classification of Nevada County, California, Special Report 164 (California Department of Conservation, Division of Mines and Geology, 1990); and the unpublished thesis *Structural and Stratigraphic Relations in the Grass Valley Colfax Area of the Northern Sierra Nevada foothills, California* were used to determine the geology of each site. According to the geologic maps, the geology of the proposed project sites primarily consists of Mesozoic aged plutonic and metavolcanic rocks. The Mesozoic era spans the time between the 65 and 230 million years before present. A brief description of the geology of each site is provided below. H&K reviewed historical mining maps to determine whether mining claims or ore processing facilities were depicted on the project sites.

GRASS VALLEY AREA

Site 1

Site 1 is located in an area with other successful development. The site gently slopes toward McCourtney Road with no notable landforms, drainage features, or vegetation. This site has previously been cleared and the exposed surface consisted primarily of gravel with a finer matrix soil. The geology of Site 1 consists of early Mesozoic Lake Combie Complex, massive diabase. These rocks occur as discordant plutonic masses intrusive into all other Lake Combie Units. No mining features were identified on this site; however, this site is near the northwestern boundary of the historic North Star group of mines, and numerous unrecorded workings are known to exist in the site vicinity.

Site 2

Site 2 is moderately sloping, with areas of dense blackberry bushes which may be indicative of seasonal shallow groundwater conditions. Exposed surface soils consisted of red, silty sand, with a few granitic cobbles strewn across the site. An ephemeral drainage swale was observed in the southern portion of the site; however, evidence of large flow was not observed. The surface of the drainage swale was largely covered in plant litter.

Potential evidence of past mining activity was observed in the southern portion of the site, as hummocky surfaces (tailings piles), exploratory excavations (glory holes), and berms which are potentially associated with water conveyance. The geology of this site consists of Mesozoic massive granitic intrusives that are referred to as the La Barr Meadows quartz diorite.

Sites 3-9

Sites 3 through 9 are located on a hilltop location and are forested with madrone, incense cedar, ponderosa pines, and chaparral. Blackberry bushes and other plants associated with moist soil conditions were observed in the lower portions of the sites, particularly on sites 3, 4, 6, and 9. The surface soil at the sites was typically obscured by forest litter, recent timber harvest debris, and surface vegetation. However, where observed, the surface soil appeared to typically consist of reddish brown fine sandy silt with common gravel-size rock fragments. H&K noted an increase in the gravel content of the surface soil in the upper portions of Sites 4, 5, 6, and 9 which may be indicative of a thinner soil profile at these hilltop locations and shallower depths to resistant rock.

H&K also observed minor apparent rock outcrop at isolated areas on the western parcels (Sites 3, 4, 5, 6, and 9) which may indicate the potential for relatively shallow soil and resistant, variably weathered rock conditions. They also observed an abandoned small wood structure in the eastern, downslope portion of Site 3, near an abandoned irrigation ditch alignment. Areas of shallow irregular topography were also observed in the southern portion of Site 3, which appears to be the result of past excavation or trenching in the area.

Sites 3 through 9 are underlain by early Mesozoic Lake Combie Complex, gabbroic rocks that occur as massive to undifferentiated gabbro to quartz diorite. No mining features were previously mapped on these sites; however, site observations identified an exploratory excavation or glory hole in the western portion of Site 6, near the boundary of Site 4. Sites 7 and 8 are located to the east of Brunswick Road and are also forested with estimated slope gradients ranging from approximately 20 percent in the northeastern portion of the sites to relatively flat in the west and southwestern portions of the sites, near Brunswick Road. The soils on Sites 7 and 8 consist of dark reddish brown silty fine sand. Shallow seepage or groundwater conditions were observed at Site 7, which may be attributable in part to intense thunderstorms the day prior to the site observation and are likely compounded by recent disturbance of the surface soil from timber harvest activities. An area of rock outcrop in the western portion of Site 7 was observed as well as the presence of a bench that appeared to alter the natural surface water drainage.

PENN VALLEY AREA

Sites 10-13

Site 10 is undeveloped and very gently slopes to the northeast. This site is topographically lower than the surrounding properties and appears to have poor drainage. This was

evidenced by drainage courses meandering throughout the property that were likely runoff from the surrounding properties. Site 11 gently slopes toward Site 10 and is vegetated primarily with grasses and a few oak trees. There were a few scattered granitic boulders ranging from three to six feet in diameter found on the site. Site 12 is largely undeveloped and generally flat lying. Vegetation on this site consists of grasses and a few large oak trees. There was one large granitic boulder on the south side of the site that appeared to have been placed during previous development. Site 13 is also undeveloped and has gently rolling terrain with two indistinct seasonal drainage swales that flow toward Squirrel Creek to the south.

The geology of Sites 10 through 13 consists of Mesozoic gabbroic rock associated with the Penn Valley Pluton. No mining features are mapped on these sites and no evidence of historic mining activities on the sites was observed.

LAKE OF THE PINES AREA

Sites 14-18

Generally, the geology of Sites 14 through 18 consists of early Mesozoic Lake Combie Complex, metavolcanics. No mining features are mapped on these sites, and H&K did not observe evidence of historic mining activities on the sites.

Site 14 is an undeveloped parcel near an area of other successful development, however the site is characterized by shallow soils and rock outcrops that may need to be considered during design. Sites 15 and 16 are partially developed and occupy moderately sloping terrain that is vegetated with grasses, shrubs, oak and pine trees. Site 17 is undeveloped on moderately sloping terrain and with very dense vegetation that obscures most of the site. The site was inaccessible because of the dense vegetation; therefore, observations were made from the west side of the property.

Site 18 is undeveloped on moderately to steeply sloped terrain. A rock outcrop was observed in the southern portion of the site centered on the topographic high and extending southwest along the ridge. Tree trunks on the northwest slope of Site 18 have a notable curvature, which may be an indication of soil creep on the relatively steep slopes in the area. Shallow soil and rock outcrop may limit development of this site, and slope instability should be addressed in a design-level geotechnical investigation prior to development.

SITE SOILS

H&K reviewed the Soil Survey of Nevada County Area, California (USDA Soil Conservation Service, 1975, reissued 1993) and the USDA's online Websoil Survey in May 2012. Soil classifications for each site are listed in Table 4.8-1. The soil series characteristics are also summarized below.

Ahwahnee Series

The soil survey describes the Ahwahnee Series soils as consisting of well-drained soil underlain by weathered granodiorite. Permeability is moderately rapid. The surface soil layer typically consists of dark grayish brown sandy loam to an approximate depth of two inches below ground surface (bgs). The surface soil is typically underlain by brown sandy loam to an approximate depth of 16 inches bgs. The sandy loam is typically underlain by yellowish brown to reddish yellow, heavy sandy loam to an approximate depth of 38 inches bgs. Below

38 inches bgs, weathered granodiorite is generally encountered. Noted limitations to site development are severe shallow soils for septic tank filter fields.

Aiken Series

The soil survey describes the Aiken Series soils as consisting of well-drained soil underlain by cobbly andesitic tuff and conglomerate. Permeability is moderately slow. The surface layer is littered with forest debris such as pine needles, oak leaves, and other vegetative material. Similar material below the surface becomes more decomposed as depth increases. The mineral surface layer typically consists of dark brown to yellowish-red loam and heavy loam to an approximate depth of 21 inches bgs. The loam to heavy loam is typically underlain by yellowish-red and reddish-yellow heavy loam to heavy clay loam and clay to an approximate depth of 64 inches bgs. The heavy loam to heavy clay loam and clay is typically underlain by weathered andesitic tuff typically at depths greater than 64 inches bgs.

Alluvial Land, Clayey

The soil survey describes the Alluvial Land, Clayey soils as narrow areas of alluvial material consisting of mostly dark-gray to dark grayish-brown clay loam to clay to an approximate depth of 30 to 45 inches bgs. This clay to clay loam is in places overlain by a sandy loam or loam to an approximate thickness of 3 to 10 inches. Permeability is moderately slow.

Alluvial Land, Loamy

The soil survey describes the Alluvial Land, Loamy soils as narrow areas of recent alluvial material along stream channels. The material is typically stratified and consists of coarse sandy loam to loam with gravels, to approximate depths of 30 to 45 inches bgs. This sandy loam to loam is typically underlain by gravel, cobblestones, or underlying bedrock. Permeability is moderate.

Argonaut Series

The soil survey describes the Argonaut Series soils as well-drained and underlain by metabasic or basic rock. Permeability is very slow. The typical soil profile consists of approximately 2 inches of brown, gravelly loam. The surface soil is generally underlain by an 8-inch thick stratum of reddish brown, gravelly loam. Reddish brown gravelly loam is typically underlain by 7 inches of reddish-brown gravelly clay which is underlain by 11 inches of light yellowish-brown clay loam and weathered diabase. Weathered basic rock is encountered at depths greater than 28 inches bgs.

Auburn Series

The soil survey describes the Auburn Series soils as well-drained and underlain by weathered diabase and metabasic rock. Permeability is moderate. The typical soil profile consists of approximately 9 inches of brown and reddish-brown loam and heavy loam. The surface soil is generally underlain by a 7-inch thick stratum of yellowish-red light clay loam. The light clay loam is typically underlain by weathered diabase or metabasic rock at depths greater than 16 inches bgs.

Boomer

The soil survey describes the Boomer soils as well-drained and underlain by weathered basic rock. The typical soil profile consists of approximately 11 inches of brown, dark brown and

reddish brown loam. The surface soil is generally underlain by a 26-inch thick stratum of reddish brown, heavy loam and yellowish red, clay loam. Reddish yellow loam and weathered diabase is generally encountered at depths greater than 37 inches bgs. Fractured diabase is typically encountered at a depth of 47 inches bgs. The Boomer-Rock Outcrop Complex generally has rock outcrop covering between 10 percent and 25 percent of the ground surface. Noted limitations to site development include rock outcrop, moderate corrosion potential of uncoated steel, and moderate shrink-swell potential.

Mariposa – Rock Outcrop Complex

The soil survey depicts Mariposa Rock Outcrop Complex (MkE) as being located in the northeastern portion of Site 8, generally within the low-lying area between Bubbling Wells Road and an unnamed surface water drainage on Site 8.

The Mariposa series soil is described as well-drained residual soil underlain by slightly weathered slate and shale. The surface soil typically consists of 3 inches of brown gravelly loam. The surface soil is typically underlain by yellowish brown gravelly heavy loam and reddish yellow gravelly clay loam. Slightly weathered slate or shale are typically encountered at a depth of 20 inches bgs. The soil survey notes that the soil series possesses a moderate corrosion rating for uncoated steel and a moderate shrink-swell potential.

Musick Series

The soil survey describes the Musick Series soils as consisting of well-drained soil underlain by weathered granodiorite. Permeability is moderately slow. The surface soil layer typically consists of brown and reddish-brown sandy loam to an approximate depth of 25 inches bgs. The sandy loam is typically underlain by yellowish-red and red heavy clay loam to an approximate depth of 98 inches bgs. The heavy clay loam is typically underlain by weathered granodiorite rock at depths greater than 98 inches bgs.

Placer Diggings

The soil survey describes the Placer Diggings deposits as remnants of Tertiary river deposits. These are hydraulically mined areas, placer-mined areas along stream channels, areas of natural deposits and areas of exposed bedrock. The deposits are highly variable consisting of 90 to 100 percent stones, cobblestones, or gravel with some varying percentages of soil material. The deposits range from 6 inches to 10 feet thick.

Rescue Series

The soil survey describes the Rescue Series soils as well-drained and underlain by weathered basic rock. The typical soil profile consists of approximately 3 inches of brown, loam. The surface soil is generally underlain by a 30-inch thick stratum of brown, heavy loam and reddish-brown, clay loam. The heavy loam and clay loam are typically underlain by 17 inches of brownish-yellow heavy loam that is slightly acid. Slightly weathered or fractured diabase is generally encountered at depths greater than 50 inches bgs. The Rescue-Rock Outcrop Complex generally has rock outcrop covering between 10 percent and 25 percent of the ground surface. Noted limitations to site development include rock outcrop, moderate corrosion potential of uncoated steel, and moderate shrink-swell potential.

Sierra Series

The soil survey describes the Sierra Series soils as consisting of well-drained soil underlain by weathered granodiorite. Permeability is moderately slow. The surface soil layer typically consists of dark brown to brown sandy loam to an approximate depth of 9 inches bgs. The sandy loam is typically underlain by reddish brown, heavy sandy loam to an approximate depth of 16 inches bgs. The heavy sandy loam is generally underlain by yellowish red to reddish yellow sandy clay loam to an approximate depth of 45 inches bgs. The sandy clay loam is typically underlain by light yellowish brown, weathered granodiorite, typically at depths greater than 45 inches bgs.

Sites Series

The soil survey describes the Sites Series soils as consisting of well-drained soil underlain by tilted metasedimentary and metabasic rock. Permeability is moderately slow. The surface soil layer typically consists of brown and yellowish red heavy loam to an approximate depth of 12 inches bgs. The heavy loam is typically underlain by yellowish-red clay loam and red clay, and light clay to an approximate depth of 68 inches bgs. The heavy loam is generally underlain by yellowish red clay loam to an approximate depth of 78 inches bgs. The clay loam is typically underlain by weathered metasedimentary and basic rock at depths greater than 78 inches bgs.

**Table 4.8-1
 Site Soils**

Site Number	USDA Soil Map Symbol	Map Unit Description
Grass Valley		
1	SIB	Sites loam, 2 to 9 percent slopes
2	SID MrE Ao MrC SmE	Sites loam, 15 to 30 percent slopes Musick sandy loam, 15 to 20 percent slopes Alluvial land, clayley Musick sandy loam, 5 to 15 percent slopes Sites very stony loam, 15 to 20 percent slopes
3	SID Ao SIB	Sites loam, 15 to 30 percent slopes Alluvial land, clayley Sites loam, 2 to 9 percent slopes
4	SID Ao SIB	Sites loam, 15 to 30 percent slopes Alluvial land, clayley Sites loam, 2 to 9 percent slopes
5	SID SIB	Sites loam, 15 to 30 percent slopes Sites loam, 2 to 9 percent slopes
6	SID SIB SmC	Sites loam, 15 to 30 percent slopes Sites loam, 2 to 9 percent slopes Sites very stony loam, 2 to 15 percent slopes
7	Ao SIC SID	Alluvial land, clayley Sites loam, 9 to 15 percent slopes Sites loam, 15 to 30 percent slopes
8	MkE Ao SID SIC	Sites stony loam, 2 to 50 percent slopes Alluvial land, clayley Sites loam, 15 to 30 percent slopes Sites loam, 9 to 15 percent slopes
9	SID SIB	Sites loam, 15 to 30 percent slopes Sites loam, 2 to 9 percent slopes

Table 4.8-1, continued

Site Number	USDA Soil Map Symbol	Map Unit Description
Penn Valley		
10	Am SfB	Alluvial land, loamy Sierra sandy loam, 2 to 9 percent slopes
11	SfB Am	Sierra sandy loam, 2 to 9 percent slopes Alluvial land, loamy
12	SfB BoC	Sierra sandy loam, 2 to 9 percent slopes Bloomer loam, 5 to 15 percent slopes
13	AdB Am Pr AfC	Ahwahnee sandy loam, 2 to 9 percent slopes Alluvial land, loamy Placer diggins Aiken loam, 9 to 15 percent slopes
Lake of the Pines		
14	BrD BoC	Boomer-Rock outcrop complex, 5 to 30 percent slopes Boomer loam, 5 to 15 percent slopes
15	BrD BoC	Boomer-Rock outcrop complex, 5 to 30 percent slopes Boomer loam, 5 to 15 percent slopes
16	BrD	Boomer-Rock outcrop complex, 5 to 30 percent slopes
17	BoC BrD	Boomer loam, 5 to 15 percent slopes Boomer-Rock outcrop complex, 5 to 30 percent slopes
18	SmE RkD Awc	Sites very stony loam, 15 to 50 percent slopes Rescue-Rock outcrop complex, 5 to 30 percent slopes Auburn-Argonaut complex, 2 to 15 percent slopes Auburn part Argonaut part

Source: Soil designations are from the Soil Survey of Nevada County Area, California (USDA Soil Conservation Service, 1975, reissued 1993) and the USDA's online Websoil Survey (<http://websoilsurvey.nrcs.usda.gov/> Accessed [May 2012]).

GROUNDWATER CONDITIONS

H&K anticipates that saturated soil conditions and seasonally shallow seepage will be encountered in drainage swales, shallow soils, and onsite excavations during or following extended periods of wet weather. Deeper groundwater conditions have not been documented at the majority of the sites. In general, depth to groundwater is highly variable dependent on site-specific conditions, and groundwater in the region is predominately governed by fracture flow. Site 16 is the only site with an existing monitoring well network, associated with the wastewater disposal field, with groundwater documented to occur at depths ranging from 56 to 75 feet bgs.

GEOLOGIC HAZARDS

Based on the results of the preliminary geotechnical investigation, H&K believe that residential development within any of the proposed project sites is feasible from a geotechnical standpoint. Generally, the sites are expected to contain relatively shallow residual soils derived from the weathering of underlying rock.

The primary concern regarding future development on the sites is the possible presence of potentially expansive, clay soil, particularly at the sites in the Lake of the Pines area. Provided that future residential development is restricted to areas with native slope gradients of 30 percent or less, H&K believes it is unlikely that large-scale slope instability would impact any of the sites. H&K also noted areas of saturated soil, standing water, and surface water drainage on Sites 7 and 8 in the Grass Valley area. The consideration of

appropriate surface water drainage improvements and potential subsurface drainage on these sites will be an important part of the successful development of low-lying areas, if proposed in the future.

Future development within any of the proposed sites would be required to comply with Best Management Practices (BMPs) for construction, applicable regulations, such as the California Building Code (CBC), Nevada County 1995 General Plan, and the Grass Valley General Plan 2020 Safety Element goals, objectives and policies listed below, as well as site-specific design-level geotechnical investigations that would be prepared once site-specific development plans have been prepared.

SEISMIC HAZARDS

Regional faulting is associated with the central area of the Foothill Fault System which includes the Spenceville Fault, Wolf Creek Fault Zone, Bear Mountains Fault Zone (Highway 49 lineament), Grass Valley Fault, Weimar Fault Zone, and the Cleveland Hill Fault. The Foothill Fault System is a broad zone of northwest trending east dipping normal faults formed along the margin of the Great Valley and the Sierra Nevada geologic provinces on the western flank of the Sierra Nevada and southern Cascade mountain ranges. The central part of the fault zone is split into branches: the Malones Fault Zone to the east, the Cleveland Hill fault to the northwest, the Spenceville Fault to the west, and the Wolf Creek Fault Zone in the area of the project sites.

H&K reviewed the 1997 version of Special Publication 42, Fault Rupture Hazard Zones in California, which describes active faults and fault zones (activity within 11,000 years), as part of the Alquist-Priolo Earthquake Fault Zoning Act. The document and the 1999 on-line update indicate that the sites are not located within an Alquist-Priolo active fault zone. According to the Fault Activity Map of California and Adjacent Areas, the closest known active fault which has surface displacement within Holocene time (about the last 11,000 years) is the Cleveland Hill Fault. The Cleveland Hill Fault is located approximately 24 to 38 miles northwest of the rezone sites and is associated with ground rupture during the Oroville earthquakes of 1975. There is a depiction of a fault trace along the east side of the current Brunswick Road alignment; however, the mapped fault is presented as pre-Quaternary in the Fault Activity Map of California, indicating that there is no evidence of displacement in the past 1.6 million years.

H&K also reviewed the California Department of Conservation Division of Mines and Geology Special Report 164, Mineral Land Classification of Nevada County, California (1990) and Structural and Stratigraphic Relations in the Grass Valley Colfax Area of the Northern Sierra Nevada Foothills, California. There are no faults mapped within the site areas, with the exception of Sites 3 and 7. However, the faults are not considered to be active.

Landslides

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, triggered either by static (i.e., gravity) or dynamic (i.e., earthquake) forces. Exposed rock slopes undergo rockfalls, rockslides, or rock avalanches, while soil slopes experience soil slumps, rapid debris flows, and deep-seated rotational slides. Slope stability can depend on several complex variables, including the geology, structure, topography, slope geometry, and amount of groundwater present, as well as external processes such as climate and human activity. Based on H&K's investigation, and

considering the distance to known active faults, the proposed project sites are considered to have a low potential for landslide hazard.

Slumps or Land Subsidence

Land subsidence can occur in various ways during an earthquake. Movement that occurs along faults can be horizontal or vertical or have a component of both. As a result, a large area of land can subside drastically during an earthquake. Land subsidence can also be caused during liquefaction. Liquefaction can result in the settling and compacting of unconsolidated sediment in an event of a major earthquake. Based on the site observations and review of published references, H&K anticipates that the sites are generally underlain by relatively thin, medium dense soil derived from residually weathered rock. They anticipate that at many of the sites, variably weathered rock will be encountered at relatively shallow depths ranging from 10 to 30 feet bgs in the native soil profile. Based on these assumptions, the potential for liquefaction, ground lurching, surface rupture, or lateral spreading in native soil/rock onsite is considered to be minimal.

Expansive Soil

Problematic soils, such as those that are expansive, can damage buried utilities and increase maintenance requirements. Expansive soils are characterized by their ability to undergo significant volume change (i.e., to shrink and swell) as a result of variations in moisture content. Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater. Expansive soils are typically very fine-grained and have a high to very high percentage of clay. Expansion and contraction of expansive soils in response to changes in moisture content can lead to differential and cyclical movements that can cause damage and/or distress to structures and equipment. Potentially expansive soil was typically not encountered in the preliminary geotechnical investigations of the project sites. However, all sites, and particularly the sites located in the Lake of the Pines area will require design-level geotechnical investigations to test for the presence of potentially expansive soil. Further geotechnical analysis will allow the developer to derive project-specific mitigation approaches, if possible.

Shallow Mining Excavation

The sites are located in the Sierra Foothills, a region associated with past and present mining. Based on H&K's research, Site 2 is the only location with documented historical mining activity. However, significant prospecting, exploratory excavation, and smaller-scale mining has occurred on multiple sites which may not be described in historical literature. Abandoned mining features such as glory holes, adits, or stockpiles may be encountered during the course of future investigations or grading and construction.

4.8.2 REGULATORY SETTING

STATE FRAMEWORK

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to prevent the construction of buildings used for human occupancy on the surface trace of active faults (those having evidence of surface displacement within about the last 11,000 years). It

requires the State Geologist to delineate earthquake fault zones around the surface traces of active faults and publish maps showing these zones.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. The Act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design.

California Building Code

The California Building Code (CBC) is contained in California Code of Regulations (CCR), Title 24, Part 2. Title 24 is assigned to the California Building Standards Commission, which is responsible for coordinating building standards. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all building and structures within its jurisdiction. The 2010 CBC is based on the 2009 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments which are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes ways for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes.

LOCAL FRAMEWORK

Nevada County 2012 General Plan

The Nevada County 2012 General Plan (2012 General Plan) Soils Element includes several goals, objectives and policies that address geologic hazards and soils. The relevant goals, objectives, and policies are listed below.

- | | |
|----------------|--|
| Goal 12.1 | Minimize adverse impacts of grading activities, loss of soils and soil productivity. |
| Objective 12.1 | Minimize earth movement and disturbance. |
| Policy 12.1 | Enforce Grading Ordinance provisions for erosion control on all new development projects by adopting provisions for ongoing monitoring of project grading. Project site inspection shall be required prior to initial site disturbance and grading to ensure all necessary control measures, including proper staking and tree protection measures, are in place. The installation, maintenance, and performance of erosion and sedimentation control measures shall be monitored by County or District staff (or their designee) and completely funded by a project applicant. All County projects shall comply with this policy. |

Policy 12.3	Cooperate and encourage those activities dealing with techniques and practices to minimize erosion in cooperation with Nevada County Resource Conservation District, including provision of educational materials for the general public regarding techniques and practices to minimize erosion from construction activities.
Objective 12.2	Minimize erosion due to road construction and maintenance.
Policy 12.4	Require erosion control measures as an element of all County contracts, discretionary projects, and ministerial projects. Policy 12.5
Policy 12.5	Encourage the efforts of the Resource Conservation District and other related agencies to educate and assist the general public about techniques and practices to minimize private road maintenance related erosion.
Objective 12.3	Minimize vegetation removal.

City of Grass Valley 2020 General Plan

The City of Grass Valley 2020 General Plan (2020 General Plan) Safety Element includes several goals, objectives, and policies with respect to geologic hazards, as identified below.

Goal 1-SG	Reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from hazards.
Objective 1-SO	Assurance of a high level of protection from geologic and seismic hazards for all residents, structures and vital services.
Objective 2-SO	Reduction of risk from exposure to hazards related to past and present mining, including shafts, tunnels, tailings and toxic materials.
Policy 1-SP	Adopt current uniform codes for new construction.
Policy 2-SP	Ensure seismic safety and structural integrity in housing and commercial/industrial facilities through code enforcement.
Policy 4-SP	Based on location or probable need, require development plans in mined areas to include in-depth assessments of potential safety, including mining-related excavations, and health hazards and accompanying mitigation measures.

4.8.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, there would be a significant impact on geology and soils if:

- The proposed project exposes people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial

evidence of a known fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides

- The proposed project results in substantial soil erosion or the loss of topsoil
- The proposed project is located on a geologic formation unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or offsite landslides, lateral spreading, subsidence, liquefaction , or collapse
- The proposed project is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property
- The proposed project has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

POTENTIAL IMPACTS AND MITIGATION MEASURES

Secondary Seismic Hazards

4.8-1 THE PROPOSED PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO POTENTIALLY SUBSTANTIAL ADVERSE EFFECTS INCLUDING THE RISK OF LOSS, INJURY, OR DEATH AS A RESULT OF SECONDARY SEISMIC HAZARDS (GROUND SHAKING, DIFFERENTIAL COMPACTION, LIQUEFACTION, SEISMICALLY INDUCED FLOWING AND LANDSLIDES).

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Future development within the proposed project sites would involve construction of structures in a seismically active area (24 to 38 miles northeast of the subject sites). While surface rupture from a known fault is unlikely to occur, the proposed project sites would likely experience moderate ground shaking as a result of earthquakes occurring on off-site faults. Earthquake-related ground shaking may cause concrete slabs, building walls, and pavement at the sites to crack, potentially threatening the integrity of the structures and the safety of the people present at the time of the earthquakes. Moreover, ground motions have the potential to initiate secondary events such as differential compaction, liquefaction, and seismically induced flooding and landslides, all of which could also threaten the integrity of the structures and safety of the people present on the sites.

The potential hazards of differential compaction, liquefaction, and seismically induced flooding and landslides at the project site are all low during a large earthquake. However, areas of loose soil or fill within the project site may be subject to seismically induced settlement or liquefaction.

The likelihood of secondary seismic hazard impacts can be reduced if future site grading is performed in accordance with the recommendations of a geotechnical engineering report and the CBC. Using standard construction techniques and following the recommendations of site-specific geotechnical investigations and applicable codes and requirements, structures can be designed and built to withstand the geologic hazards listed above. Although some structural damage is not typically avoidable, building codes and local construction requirements help to protect against building collapse and personal injury during seismic events. Future

developers within the Nevada County Housing Element Rezone area would be required to comply with applicable regulations, such as the CBC, the Nevada County 2012 General Plan and the Grass Valley General Plan 2020 Safety Element goals (for Sites 1-9), objectives, and policies listed above. The following mitigation measure requires a design-level investigation to ensure the findings of the *Preliminary Geotechnical Engineering Report for Housing Element Rezone, Nevada County, California* report has been incorporated in the project design to further reduce potential secondary seismic hazards to less than significant.

Mitigation Measure:

The following mitigation measure applies to all project sites.

- 4.8-1 Prior to issuance of grading permits for development projects (or as part of the annexation request for Sites 1-9) within the proposed project sites, a design-level investigation shall be performed to ensure the findings of the *Preliminary Geotechnical Engineering Report for Housing Element Rezone, Nevada County, California* have been incorporated in the project design.

Level of Significance After Mitigation: Less Than Significant Impact

Soil Erosion

4.8-2 THE PROPOSED PROJECT COULD RESULT IN SUBSTANTIAL SOIL EROSION OR THE LOSS OF TOPSOIL.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Soils within the proposed project sites have various erosion potentials that can be dependent upon slope with at least one soil characterized as having moderate to high erosion potential, regardless of slope. Future development would be allowed on areas of primarily little to moderate slope, and would not be expected to result in substantial or excessive soil erosion or the loss of topsoil.

Future development would involve vegetation removal, grading, and potentially earth excavation, which would expose soils and increase the potential for soil erosion from wind or stormwater runoff. Erosion can be controlled using standard construction practices, based on the Preliminary Geotechnical Engineering Report, and site-specific geotechnical investigations that are required by Mitigation Measure 4.8-1. In addition, adherence to applicable state and local regulations, codes and requirements, as identified in Section 4.10 (Hydrology and Water Quality), would ensure that impacts associated with construction-related soil erosion would be less than significant.

Future development allowed by the Nevada County Housing Element Rezone would cover currently pervious ground surfaces with impervious materials. This could increase stormwater runoff, which would have the potential to erode soils. Methods to reduce stormwater runoff impacts to less-than-significant levels are described in Section 4.10 (Hydrology and Water Quality), and are mitigated by implementing Mitigation Measures 4.10-1b and 4.10-1d.

Mitigation Measure:

The following mitigation measures apply to all project sites:

Implement Mitigation Measures 4.10-1b and 4.10-1d.

Level of Significance After Mitigation: Less Than Significant Impact

Unstable Soils

4.8-3 THE PROPOSED PROJECT COULD BE LOCATED ON A GEOLOGIC FORMATION UNIT OR SOIL THAT IS UNSTABLE, OR THAT WOULD BECOME UNSTABLE AS A RESULT OF CONSTRUCTION, AND POTENTIALLY RESULT IN LANDSLIDES OR SUBSIDENCE.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

As documented in the Preliminary Geotechnical Engineering Report, the landslide hazard at the project sites are generally low. However, the areas with steep slopes could be subject to landslides. An area with 30% slope was recorded on Site 18 and is mapped as an Environmentally Sensitive Area in Chapter 3.0. The Slope ESA should be avoided in all improvement and construction plans to minimize the potential for landslides. If landslides did occur they could potentially threaten the integrity of structures and the safety of individuals down slope. In addition, the majority of on-site soil would not typically be subject to liquefaction, but areas of loose soil or fill within the proposed project sites may be subject to seismically induced liquefaction. The proposed project sites are primarily underlain by soil originating from completely weathered rock. Such residual soil generally does not present a hazard of slumping or subsidence. However, subsidence may be possible in alluvial areas or areas of fill.

Future development allowed by the Nevada County Housing Element Rezone would require mitigation to establish Environmentally Sensitive Areas for areas with slopes greater than 30%. Additionally, the implementation of Mitigation Measure 4.8-1 would ensure that impacts associated with unstable soil were in conformance with the Preliminary Geotechnical Engineering Report for the project sites, which would make the impacts related to landslides and subsidence less than significant.

Mitigation Measure:

The following mitigation measures apply to all project sites:

Implement Mitigation Measure 4.8-1 and 4.8-3.

The following Mitigation Measure applies to Site 18:

- 4.8-3 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project applicant shall to the satisfaction of the Director of the County Planning Department:

Establish areas with slopes greater than 30% as Environmentally Sensitive Areas. Prior to construction, slopes greater than 30% shall be designated as an Environmentally Sensitive Area (ESA) on all Site Plans, grading plans, or any plan authorizing construction for a property within the RH Combining District. No construction shall be permitted within the ESAs, unless as part of a mitigation plan approved by the County. The boundaries of the ESAs shall be clearly shown on all final plans and specifications.

Level of Significance After Mitigation: Less Than Significant Impact

Expansive Soil

4.8-4 THE PROPOSED PROJECT COULD BE LOCATED ON EXPANSIVE SOIL, AS DEFINED IN TABLE 18-1-B OF THE UNIFORM BUILDING CODE (1994), CREATING SUBSTANTIAL RISKS TO LIFE OR PROPERTY.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Potentially expansive soil was encountered in the geotechnical investigations of the sites in the Lake of the Pines area near the soil/weathered rock interface. This soil may not be suitable for use within proposed paved areas, building footprints, or any other improvements which may be susceptible to swell or expansive soil induced distress without mitigation. Therefore, a design-level investigation should be performed to ensure the recommendations of the geotechnical investigation are implemented in the project design, as identified by Mitigation Measure 4.8-1. Recommendations for mitigation of expansive soil would be based on the findings of the investigation(s).

Mitigation Measure:

The following mitigation measure applies to all project sites:

Implement Mitigation Measure 4.8-1.

Level of Significance After Mitigation: Less Than Significant Impact

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4.9 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential presence of existing hazards and hazardous materials within the proposed project areas and other hazardous conditions in the project vicinity, and then analyzes the risks associated with introducing proposed development and associated human activities to the area.

4.9.1 ENVIRONMENTAL SETTING

DEFINITIONS

The U.S. Environmental Protection Agency (EPA) and the California Department of Toxic Substance Control (DTSC) have developed and continue to update lists of hazardous wastes subject to regulation. The regulation of hazardous wastes is provided on both the state and federal levels.

The term “hazardous material” refers to both hazardous substances and hazardous waste. A material is defined as “hazardous” if it appears on a list of hazardous materials prepared by a federal, state, or local regulatory agency, or if it has characteristics defined as “hazardous” by such an agency. A “hazardous waste” is a “solid waste” that exhibits toxic or hazardous characteristics. The EPA has defined the term “solid waste” to include many types of discarded materials, including any gaseous, liquid, semi-liquid, or solid material which is discarded or has served its intended purpose, unless the material is specifically excluded from regulation. Such materials are considered waste whether they are discarded, reused, recycled, or reclaimed.

EXISTING HAZARDS AND HAZARDOUS MATERIALS

Wildland Fires

A typical fire season for Nevada County (County) ranges from May 15 to October 31, which is about 168 days, or 46 percent of the year. Peak fire season ranges from June 15 to October 15, or 122 days (33 percent) of the year. The extended wildfire season, linked to the Sierra Nevada region and the rest of California, can exceed 275 days (75 percent) of the year, and some years it can be a year-round season. It is also common to have wildfires burn during non-fire season periods in the County and throughout the state.

The interface of the natural and manmade environment creates potential safety hazards, including earthquakes (along with related seiches and dam failures), flooding and wildfires. Refer to Section 4.8 (Geology and Soils) for further information pertaining to potential impacts due to seismic hazards, and Section 4.10 (Hydrology and Water Quality) for further information on potential impacts related to flood hazards. There are several factors that influence the potential for fire hazard, including population growth, vegetation and slope, and weather. The County has a high potential for wildland fires of devastating intensity. Based on a “Fire Hazard Severity Zone” map developed by the CAL FIRE, almost all of the County has been placed in the “very high” category of severity, including the proposed project area. See Impact 4.9-6 for a wildland fire hazard discussion specific to each of the sites.

Generally, vegetative areas over eight percent in slope are defined as fire hazardous. The steeper the slope, the faster the fire climbs. CAL FIRE has categorized vegetation based on fuel burning, or “fuel loading” characteristics.

These include:

- Light – flammable grass and annual herbs
- Medium – scrub brush of lighter species
- Heavy – timber, woodland, and heavier brush species

Weather also plays a critical role in determining fire hazard. According to the CAL FIRE, summers with little precipitation and low relative humidity dry out vegetation, which increases the amount of fuel available for burning. The drying winds of the winter months also contribute to fire hazard in the County.

Airports

The Federal Aviation Administration (FAA) identifies 10 public and private airport facilities within Nevada County. Of the 10 airports identified by the FAA, five of the facilities are located within two miles of the project sites. The Nevada County Airport is located within one-half mile of the Sites 3 through 9 (to the southeast). Both the Shaws Hill Heliport and the Sierra Nevada Memorial Hospital Heliport are located approximately one-mile west of Sites 3 through 9. The Limberlost Ranch Airport, a private airstrip, is located approximately two miles northwest of the Penn Valley sites, Sites 10 through 13. The Alta Sierra Airport is located approximately 4.5 miles north of the sites in the Lake of the Pines area, specifically Sites 14 through 18.

Hazardous Materials

Hazardous Waste and Substances Sites

The State of California Hazardous Waste and Substances Site List (also known as the Cortese List) is a planning document used by state and local agencies and by private developers to comply with California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials sites. The California Department of Toxic Substances Control (DTSC) is responsible for preparing a portion of the information that comprises the Cortese List, through its EnviroStor database. The EnviroStor database does not identify any of these types of hazardous material sites within one mile of the project site (DTSC 2013).

Leaking Underground Storage Tanks

Leaking underground storage tanks (LUST) are a significant source of petroleum impacts to groundwater and can also result in potential threats to health and safety. The State Water Resources Control Board (SWRCB) records soil and/or groundwater contamination caused by LUSTs in its Geotracker database. An inquiry through SWRCB’s Geotracker database identified no LUST sites within one mile of the project site (SWRCB 2013).

Household Hazardous Waste

Hazardous materials, used in many household products (such as drain cleaners, waste oil, cleaning fluids, insecticides, and car batteries), are often improperly disposed of as part of normal household trash. These hazardous materials can interact with other chemicals to

create risks to people or cause soil and groundwater contamination. All Nevada County residents are able to recycle and properly dispose of household hazardous waste at the McCourtney Road Transfer Station, Household Hazardous Waste Facility, and Recycling Center (Transfer Station), which is located approximately 10 miles north of the project site at 14741 Wolf Mountain Road in Grass Valley. The limit of household hazardous waste per visit is 15 gallons or 125 pounds (Nevada County 2013).

Transportation of Hazards Substances

Interstate 80 (I-80), the Southern Pacific Railroad, and the Southern Pacific pipeline are the three major transportation routes by which tons of hazardous materials are transported through Nevada County (Nevada County 1995, p. 370). (Note: The Southern Pacific and Union Pacific railroads merged in 1996; Union Pacific Railroad is the name by which the company is now known.) The Union Pacific railroad tracks roughly parallel I-80, and the underground hydrocarbon pipeline runs adjacent to the Union Pacific railway tracks (OES 2006, p. 60). At its closest point, the I-80 transportation route is located over 3 miles from Site 18. Hazardous materials are also transported along State Routes (SR) 20, 49, 89, 174, and 267. While the majority of these transportation routes are not in the vicinity of the project site, Site 2 is located just east of SR 49 and Site 13 is located adjacent to SR 20.

4.9.2 REGULATORY SETTING

The EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes responsibility for issuing permits and monitoring and enforcing compliance. The management of hazardous materials and waste within the State of California is under the jurisdiction of the California Environmental Protection Agency (Cal/EPA) and the DTSC. The Cal/EPA was created by the State of California to establish a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources. The DTSC regulates hazardous waste, clean-up of existing contamination, emergency planning, and identifies alternatives to reduce the hazardous waste produced in California. Additionally, the nine Regional Water Quality Control Boards (RWQCB) regulate the quality of water within the state, including contamination of state waters as a result of hazardous materials and/or waste. Other local departments (i.e., fire department, environmental health services department, etc.) may also have jurisdiction over hazardous materials. Refer to Table 4.9-1, *Summary of Hazardous Materials Regulatory Authority*.

FEDERAL FRAMEWORK

Environmental Protection Agency

The EPA provides leadership in the nation's environmental science, research, education, and assessment efforts. The EPA works closely with other Federal agencies, state and local governments, and Indian tribes to develop and enforce regulations under existing environmental laws. The EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes responsibility for issuing permits and monitoring and enforcing compliance.

Other Federal Agencies

Other federal agencies that regulate hazardous materials include the Occupational Safety and Health Administration (OSHA), the United States Department of Transportation (DOT), and the National Institute of Health (NIH). The following federal laws and guidelines govern hazardous materials:

- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Toxic Substances Control Act

**Table 4.9-1
 Summary of Hazardous Materials Regulatory Authority**

Regulatory Agency	Authority
Federal Agencies	
U.S. Department of Transportation (DOT)	Hazardous Materials Transport Act – Code of Federal Regulations (CFR) 49
Environmental Protection Agency (EPA)	Federal Water Pollution Control Act (Clean Water Act) Clean Air Act Resource Conservation and Recovery Act (RCRA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Superfund Amendments and Reauthorization Act (SARA) Federal Insecticide, Fungicide and Rodenticide Act
Occupational Safety and Health Administration (OSHA)	Occupational Safety and Health Act and CFR 29
State Agencies	
Department of Toxic Substances Control (DTSC)	California Code of Regulations
Department of Industrial Relations (CAL-OSHA)	California Occupational Safety and Health Act, CCR Title 8
State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB)	Porter-Cologne Water Quality Act Underground Storage Tank Law
Health and Welfare Agency	Safe Drinking Water and Toxic Enforcement Act
Air Resources Board and Air Pollution Control District	Air Resources Act
Office of Emergency Services (OES)	Hazardous Materials Release Response Plans/Inventory Law
Department of Food and Agriculture	Food and Agriculture Code
State Fire Marshal	Uniform Fire Code, CR Title 19
Local Agencies	
Department of Environmental Health	County Hazardous Waste Management Plan

Prior to August 1992, the principal agency at the federal level regulating the generation, transport and disposal of hazardous waste was the EPA under the authority of the Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, the DTSC was authorized to implement the state’s hazardous waste management program for the EPA. The EPA

continues to regulate hazardous substances under the Comprehensive Response Compensation and Liability Act (CERCLA).

STATE FRAMEWORK

California Environmental Protection Agency

The Cal/EPA and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Underground Storage of Hazardous Substances Act
- Department of Toxic Substances Control

Within Cal/EPA, the DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

LOCAL FRAMEWORK

Nevada County Department of Environmental Health

The Nevada County Department of Environmental Health (DEH) manages most hazardous materials regulation and enforcement in the County. Large cases of hazardous materials contamination or violations are referred to the RWQCB and the DTSC.

The DEH maintains the County Hazardous Waste Management Plan (CHWMP), which addresses existing and projected hazardous waste generation from the residential, commercial and industrial sectors. Types of treatment and disposal for such wastes are identified and possible locations for treatment and disposal facilities are discussed. The CHWMP also addresses emergency response programs, contaminated sites, and educational and administrative programs related to hazardous wastes. The County CHWMP has been adopted locally, but was not accepted by the DTSC. The CHWMP provides criteria that, when implemented, would minimize safety hazards associated with the use, transport, storage and disposal of hazardous materials in the County.

The DEH also provides guidance on removal of septic tanks within the County. The DEH requires a Tank Abandonment Permit to be obtained prior to the removal, relocation, or replacement of septic tanks. The DEH also requires septic tanks to be properly closed and abandoned in accordance with DEH requirements.

Nevada County Fire Protection

According to the Nevada County General Plan, the County is protected by multiple fire protection agencies, including eight local fire districts, one water district, two City fire departments, CAL FIRE, the Bureau of Land Management (BLM), and the US Forest Service (USFS). In Western Nevada County, the following fire districts and departments provide fire protection services, or support for the cities and unincorporated areas of the County:

- Grass Valley City Fire Department
- Higgins Fire Protection District
- Nevada City Fire Department
- Nevada County Consolidated Fire District
- North San Juan Fire Protection District
- Ophir Hill Fire Protection District
- Peardale-Chicago Park Fire Protection District
- Penn Valley Fire Protection District
- Rough and Ready Fire Protection District
- Washington County Water District (supports local volunteer fire department)

Fire protection services are determined by jurisdiction and responsibilities. In general, local fire districts and city departments provide emergency medical services, other emergency responses, and fire protection for structures within their respective jurisdictions. Many fire districts are staffed with volunteers. CAL FIRE provides wildland fire protection services on private, non-federal lands for the purpose of life, property and resource protection. USFS and BLM provide wildland fire protection services on federal lands in Federal Responsibility Areas for watershed and resource protection. Various agreements between the fire protection agencies enable cooperative fire protection services. The Grass Valley Emergency Command Center, a cooperative facility between the USFS and CAL FIRE, provides emergency dispatching services through cooperative agreements with all the fire districts and cities within Nevada County.

Nevada County Airport Land Use Compatibility Plan

The Nevada County Airport is approximately 0.50 mile to the east/southeast of Sites 3 through 9. The Nevada County Airport Land Use Compatibility Plan (ALUCP) was adopted by the Nevada County Airport Land Use Commission (ALUC) on September 21, 2011. The plan sets compatibility criteria applicable to local agencies in their preparation or amendment of land use plans and ordinances and to land owners in their design of new development. The influence area extends 1.7 miles from the airport's runway. The plan is used by the ALUC staff to define compatibility for noise, safety, airspace protection, and overflight as it pertains to newly proposed projects in the vicinity of the Nevada County Airport.

Local Hazard Mitigation Plan

The Disaster Mitigation Act of 2000 (DMA 2000), PL-106-390 requires that each State develop a hazard mitigation plan, in order to receive future disaster mitigation funding following a disaster. California completed its most recent "State of California Multi-Hazard Mitigation Plan" in 2010. The requirements also call for the development of local or county plans for that particular county to be eligible for post-disaster mitigation funding. The purpose of these requirements is to encourage state and local government to engage in systematic and nationally uniform planning efforts that will result in locally tailored programs and projects that help minimize loss of life, destruction of property, damage to the environment and the total cost of disasters before they occur. The Nevada County

Operational Area Emergency Services Council prepared the Local Hazard Mitigation Plan for Nevada County, for the years 2011 to 2016.

Nevada County specifically includes and adopts the most recent State of California Multi-Hazard Mitigation Plan where the State's plan relates to issues pertaining to Nevada County. However, in the interest of not duplicating State efforts, Nevada County in its plan refers to the State where the State has identified an issue or provided information that supplements Nevada County's plan.

The Code of Federal Regulations (CFR) Section 201.6(c)(3) outlines the process for localities in developing their mitigation strategies. Specifically, the Local Hazard Mitigation Plan must "include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools." These strategies should be built on an assessment of hazard risks and vulnerabilities.

Nevada County General Plan

The Safety Element of the Nevada County General Plan includes several goals, objectives and policies with respect to hazards and hazardous materials, including the following:

- | | |
|---------------------|--|
| Goal EP-10.1 | Provide a coordinated approach to hazard and disaster response preparedness. |
| Objective EP-10.1.3 | Existing and future land use patterns shall provide for alternative routes for emergency access. |
| Goal AH-10.4 | Ensure the safety and compatibility of land uses in the vicinity of airports. |
| Objective AH-10.4.1 | Maintain land use and development patterns in the vicinity of airports that reflect and are consistent with policies for the different impact zones within the Airport Influence Area. |
| Goal HM-10.5 | Protect the community's health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials. |
| Objective HM-10.5.1 | Provide means for the identification, safe use, storage, transport, and disposal of hazardous materials. |
| Goal SF-10.6 | Ensure adequate public safety services and facilities through development standards, development fees, and land use patterns. |
| Objective SF-10.6.1 | Maintain appropriate levels of safety and protection services and facilities on land and water for both Community and Rural Regions. |
| Goal FP-10.7 | Enhance fire safety and improve fire protection effectiveness through infrastructure and service improvements. |
| Objective FP-10.7.1 | Identify existing County-maintained roads not meeting design standards for current or anticipated use as designated on the General Plan Land Use Map. |

Objective FP-10.7.4	Encourage fire protection agencies to determine appropriate levels of fire protection facilities and services for both Community and Rural Regions.
Goal FP-10.8	Reduce fire risk to life and property through land use planning, ordinances, and compliance programs.
Objective FP-10.8.5	Land use patterns and development standards shall minimize fire hazard.
Goal FP-10.11	Reduce fire severity and intensity through fuels management.
Objective FP-10.11.1	Recognize Public Resources Codes 4290 and 4291, and other defensible space standards and guidelines in order to protect structures from wildfire, protect wildlands from structure fires, and provide safe access routes for people and firefighters.

Nevada County Land Use and Development Code

Section L-11 4.3.18 – Wildland Fire Hazard Areas

The Nevada County Land Use and Development Code, Section L-II 4.3.18, includes regulations intended to prevent or minimize the impact of wildland fire hazards associated with development. These include defensible space regulations that require vegetation clearance around structures to meet the minimum requirements of Public Resources Code Section 4291 prior to any occupancy of the project site. Structures are required to maintain a firebreak by removing and clearing away all brush, flammable vegetation, or combustible growth no less than 100 feet from structures or to the property line, whichever is closer. The regulations also include standards for roads and private driveways to facilitate emergency service response to structural and wildland fires. The standards require the provision of secondary road access to new projects where necessary for fire safety or emergency access. In addition, these regulations require all discretionary projects within the very high wildland Fire Hazard Severity Zones to submit a Fire Protection Plan and Fuels Management Plan. The regulations also require compliance with the following fire protection-related provisions of the Nevada County Land Use and Development Code:

- a. Chapter II: Zoning Regulations, which establishes residential and rural base district side yard and rear yard setback standards.
- b. Chapter V: Article 5, Fire Safety Standards, which establish fire-safe building codes relative to building construction.
- c. Chapter VII: Street Addressing and Naming, which requires the naming and posting of roads and the posting of street addresses.
- d. Chapter XVI: Fire Safety Regulations, which establishes regulations for fuel modification, water storage, and driveway construction.
- e. Chapter XVII: Road Standards, which establishes minimum standards for fire-safe road construction and maintenance.

City of Grass Valley 2020 General Plan

The Safety Element of the 2020 General Plan includes several goals, objectives and policies with respect to hazards and hazardous materials, including the following:

Goal 1-SG:	Reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from hazards.
Objective 2-SO:	Reduction of risk from exposure to hazards related to past and present mining, including shafts, tunnels, tailings, and toxic materials.
Objective 4-SO:	Reduction of risk from exposure to structural and wildlife fires.
Policy 4-SP:	Based on location or probable need, require development plans in mined areas to include in-depth assessments of potential safety, including mining-related excavations, and health hazards and accompanying mitigation measures.
Policy 6-SP:	Incorporate fire hazard reduction considerations into land use plans/patterns, both public and private.
Policy 7-SP:	Identify, maintain, and mark evacuation routes for use in case of disasters or emergencies.
Policy 13-SP:	Continue to implement provisions of the Nevada County Airport Comprehensive Land Use Plan, and to coordinate as appropriate with Nevada County, Airport management, and the Foothill Airport Land Use Commission regarding Airport plans and safety considerations.

Grass Valley Fire Protection

According to the City of Grass Valley 2020 General Plan, fire protection agencies in the Grass Valley Planning Area include the City of Grass Valley (City) Fire Department, which provides service within the City, the Nevada County Consolidated Fire District (NCCFD), which serves the area generally north, west and south of the City, and the Ophir Hill Fire District, which serves lands east of the City. An Automatic Aid agreement was reached among these agencies in 1998 to provide efficient response throughout the City. The proposed project areas within the Grass Valley Sphere of Influence would be served jointly by the Grass Valley Fire Department and the NCCFD. Also, the CAL FIRE provides fire protection for wildland areas, and is legally responsible for wildland fires during the fire season.

4.9.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact 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 handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

AREA OF NO PROJECT IMPACT

The following impact is either not applicable to the project or not reasonably foreseeable:

- Safety hazard as a result of a private airstrip

The proposed project sites are not located within the vicinity of a private airstrip. Therefore, no impact would occur in this regard. For all other airport-related impacts, refer to Impact 4.9-5, below.

- 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, could create a significant hazard to the public or the environment.

As discussed in the Setting subsection above, none of the proposed project sites are located on, or within one mile of, a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, no impact would occur.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Public or Environmental Hazards

4.9-1 THE PROPOSED PROJECT MAY CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH THE ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

Implementation of the proposed project may result in the routine transport of hazardous materials during construction (i.e., ACMs, LBPs, and/or contaminated soils, etc.) and at buildout of the proposed project. However, handling measures would be required by the City, County (NCCFD and DEH), and the Northern Sierra Air Quality Management District throughout the life of the project. These measures include standards and regulations regarding the storage, handling and use of these materials.

Approval of the proposed project would allow for the implementation of high-density residential uses. No significant hazards to the public or environment are anticipated during the occupancy of the proposed project. Use of hazardous materials on the project site may include cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance and upkeep of the proposed uses. With proper use and disposal, as required by local, state, and federal laws and regulations, these chemicals are not expected to result in hazardous or unhealthful conditions for those that would utilize and reside within the proposed project area. A less than significant impact would occur in this regard after compliance with applicable federal, state, and local regulations.

Mitigation Measures: No mitigation is required.

Level of Significance After Mitigation: Not applicable.

Hazardous Materials

4.9-2 THE PROPOSED PROJECT MAY CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENTAL CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

Accidental releases of hazardous materials are those releases that are unforeseen or that result from unforeseen circumstances, while reasonably foreseeable upset conditions are those release or exposure events that can be anticipated and planned for. As discussed under Impact 4.9-1 above, the proposed project does not include land uses that would involve the routine transportation, use, and disposal of large amounts of hazardous materials. Therefore, the proposed project would not result in the accidental release of hazardous materials into the environment.

Implementation of the proposed project would result in an increase in population of approximately 2,960 residents in Grass Valley and 2,438 residents in the County (see Section 4.12 [Population and Housing]) and therefore could increase exposure of the public to accidental or reasonably foreseeable releases of hazardous materials offsite. However, there are no hazardous material sites within one mile of the project site. Furthermore, the transport, storage, and use of hazardous materials by developers, contractors, business owners, and others would be required to be in compliance with local, state, and federal regulations designed to avoid hazardous waste releases. These regulations provide a comprehensive regulatory system for handling, using, and transporting hazardous materials in a manner that protects human health and the environment. As such, both accidental and reasonably foreseeable hazardous materials releases would be expected to occur infrequently and result in minimal hazard to the public or to the environment.

The project site is in the vicinity of SR 49 and SR 20, along which hazardous materials may be transported. The federal Hazardous Materials Regulations (HMR) address hazardous material transportation via classification, packaging, hazard communication, emergency response information, and training requirements. HMR emergency response requirements include initial emergency actions regarding evacuation isolation of the affected area, firefighting, leaking containers, spill containment, and first aid. These requirements would

also reduce the number of persons exposed to any hazmat incidents. Furthermore, hazardous materials spills on state highways are the responsibility of the California Department of Transportation (Caltrans) and the California Highway Patrol (CHP). These agencies provide on-scene management of the spill site and coordinate with the California Environmental Health Department, California Emergency Management Agency (formerly known as the California Office of Emergency Services), and applicable local agencies. As such, accidental and reasonably foreseeable hazardous materials releases associated with the transport of hazardous materials in the vicinity of the project site would result in a less than significant hazard to residents of the proposed project.

Furthermore, data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements were reviewed to determine if any of the proposed project sites are identified as hazardous waste sites. Four databases in total were reviewed (included in Appendix H), including:

- Department of Toxic Substances Control (DTSC) EnviroStor database – List of Hazardous Waste and Substances sites
- Water Board GeoTracker database – List of Leaking Underground Storage Tank Sites by County and Fiscal Year
- Water Board – List of solid waste disposal sites identifies by Water Board with waste constituents above hazardous waste levels outside the waste management unit
- Water Board – List of “active” CDO and CAO

Based on the review of the four databases, none of the sites are known to be listed as a site with known hazardous materials waste or spills. As such, none of the project sites would be developed on a hazardous waste site, in which the development of would result in the release of hazardous materials. Therefore, no impacts were identified in this regard.

Mitigation Measure: No mitigation required.

Level of Significance After Mitigation: Not applicable.

School Sites

4.9-3 THE PROPOSED PROJECT MAY EMIT HAZARDOUS EMISSIONS OR RESULT IN THE HANDLING OF HAZARDOUS MATERIALS, SUBSTANCES, OR WASTE WITHIN ONE-QUARTER MILE OF AN EXISTING OR PROPOSED SCHOOL SITE.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

Construction of the proposed project sites would occur within one-quarter mile of existing schools; refer to Table 4.9-2, *Nearby School Sites*. Emissions from construction equipment could result in the project emitting hazardous emissions within one-quarter mile of an existing school. However, the emissions would be temporary and would cease upon the completion of construction activities. As discussed under Impact 4.9-1 above, the proposed project does not include land uses that would involve the routine transportation, use, and disposal of large amounts of hazardous materials. Prior to the construction of any project site within one-quarter mile of an existing school, all requirements of *CEQA Guidelines* Section 15186 and Division 20 of the Health and Safety Code would be met. Based on the

above and with adherence to state guidelines and regulations, a less than significant impact would occur in this regard.

**Table 4.9-2
Nearby School Sites**

Project Area	School Name and Distance from Project Site
Grass Valley Sphere of Influence	
Site 1	Tall Pines Nursery School, approximately 750 feet to the northeast.
Site 2	Muir Charter School, approximately 430 feet to the west.
Sites 3-9	No schools identified within one-quarter mile.
Penn Valley	
Sites 10 and 11	Ready Springs Elementary, approximately 490 feet to the east.
Site 12	Ready Springs Elementary, approximately 1,220 feet to the south.
Site 13	No schools identified within one-quarter mile.
Lake of the Pines	
Site 14	No schools identified within one-quarter mile.
Sites 15 and 16	No schools identified within one-quarter mile.
Site 17	No schools identified within one-quarter mile.
Site 18	Forest Lake Christian School, approximately 570 feet to the west.

Mitigation Measure: No mitigation required.

Level of Significance After Mitigation: Less than Significant Impact

Airport Land Use Plan / Public Airport

4.9-4 THE PROPOSED PROJECT WOULD BE LOCATED WITHIN AN AIRPORT LAND USE PLAN AND COULD RESULT IN A SAFETY HAZARD FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The Nevada County Airport is located approximately 0.50 mile to the east/southeast of Sites 3-9. Sites 3 through 9 are also located within the Air Influence Area, specifically in the Urban Overlay Zone of Compatibility Zone D. In Urban Overlay Zone D, the maximum residential density is 20 dwelling units per acre. A proposal for development of 21 or more residential dwelling units per acre would require review from the Airport Land Use Commission. According to the 2011 Nevada County Airport Land Use Compatibility Plan (ALUCP), highly noise-sensitive uses are prohibited in Compatibility Zone D*-Urban Overlay Zone; however, the proposed project sites are located outside of the 55 dB CNEL contour and therefore it is unlikely that aircraft noise will impact the project. Hazards to flights, which are defined as physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations, and land use development that may cause the attraction of birds to increase are also prohibited. Although residential uses are discouraged in this Zone, the

proposed project sites are outside the Safety Areas referenced in the ALUCP and Safety Element of the 2020 General Plan.

The proposed project has taken these constraints into account to ensure that proposed development is compatible with state and airport regulations. Future development would be required to adhere to all policies established by the ALUCP pertaining to safety hazards on a project-by-project basis. With implementation of Mitigation Measure 4.9-4 and state and airport regulations, impacts to people working or residing in the area to airport-related hazards would be reduced to a less than significant level.

Mitigation Measure:

The following mitigation measure applies to Sites 3 through 9.

- 4.9-4 All future development in the proposed project within Safety Areas, as designated by the 2011 Nevada County Airport Land Use Compatibility Plan (ALUCP), shall comply with all policies pertaining to safety hazards (including density standards) set forth in the ALUCP on a project-by-project basis, and the recordation of an Avigation Easement.

Level of Significance After Mitigation: Less Than Significant Impact

Emergency Response / Evacuation Plan

4.9-5 THE PROPOSED PROJECT MAY IMPAIR IMPLEMENTATION OF OR PHYSICALLY INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

The proposed project would be subject to the Nevada County Hazardous Waste Management Plan (HWMP) in order to minimize safety hazards associated with hazardous materials and hazardous waste incidents. The NCCFD has published the Cascade Shores Evacuation Plan, which, although tailored to the Cascade Shores area, contains applicable information to all parts of the NCCFD. Applicable information includes the importance of preparation of homes and property for self-defense (i.e., home ignition zone, defensible space zone); possible evacuation destinations; how to stay informed; and a checklist to create and/or review family emergency plans.

Implementation of the Local Hazard Mitigation Plan mitigation actions and multi-hazard mitigation strategies, such as the installation of fire hydrants, vegetation and tree management, and creation of defensible space around the project sites, will reduce the impacts from wildfires and overall impact related to large-scale wildfire emergency events.

Section L-II 4.3.18 of the County's Land Use Development code states that all discretionary and Administrative Development Permit projects within a very high fire hazard zone shall submit a Fire Protection Plan to be approved by the Nevada County Fire Marshal and/or his/her designee, which includes identification of a feasible evacuation plan and/or safe evacuation routes for use by future occupants of the project.

Section 8.12.080 of the City's Municipal Code states that the City Disaster Council is responsible for the development of a City Emergency Plan, which would provide for the effective mobilization of all of the resources of the City to meet any condition constituting a

local emergency, state of emergency, or state of war emergency, and should provide for the organization, powers and duties, services, and staff of the emergency organization. However, a City Emergency Plan has not yet been prepared and is, therefore, not available at this time. Also, the proposed project would be required to adhere to recognized standards used by the Grass Valley Fire Department in planning for new development to prevent access constraints to fire equipment and improve emergency evacuation capabilities, as identified in the 2020 General Plan. The 2020 General Plan also addresses fire hazard reduction considerations and ways of preventing interference with emergency response or evacuation through established goals, objectives, policies and implementation strategies.

Implementation of the HWMP and the policies pertaining to hazards and hazardous materials set forth in the Nevada County General Plan and Land Use Development Code and the City of Grass Valley 2020 General Plan, and the implementation of the Local Hazard Mitigation Plan mitigation strategies, would ensure a less than significant impact to the adopted emergency or evacuation plans.

Mitigation Measures: No mitigation required.

Level of Significance After Mitigation: Not applicable.

Wildland Fires

4.9-6 THE PROPOSED PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO A SIGNIFICANT RISK OF LOSS, INJURY, OR DEATH INVOLVING WILDLAND FIRES, INCLUDING WHERE WILDLANDS ARE ADJACENT TO URBANIZED AREAS OR WHERE RESIDENCES ARE INTERMIXED WITH WILDLANDS.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

As stated in the Nevada County General Plan and the City of Grass Valley 2020 General Plan, the region has a generally high potential for wildland fires of devastating intensity. Fire protection services are jointly provided to the project site by the Grass Valley Fire Department, the NCCFD, and local fire districts. Also, the CAL FIRE provides fire protection for the wildland areas, and are legally responsible for wildland fires during the fire season. The proposed project areas currently consists of timber, woodland, heavy brush species, grass lands, and contains areas of moderate slopes, making the project site subject to wildfires. Project implementation would result in a development of high-density multi-family residential land uses that are surrounded in some areas by sparsely developed and undeveloped, wooded land.

Based on the CAL FIRE Severity Maps, the proposed project sites are designated as a “moderate,” “high” and “very high” fire severity zone; refer to Table 4.9-3, *Fire Severity Zone Designation*. The 2010 California Fire Code, Section 4906, requires that all unincorporated lands designated by the State Board of Forestry and Fire Protection as State Responsibility Areas (SRA) and are designated as “moderate,” “high,” or “very high” fire severity zones are required to maintain defensible space of a minimum of 100 feet from each side and from the front and rear of the structure, but not beyond the property line unless otherwise specified by an agency having jurisdiction over the property. Section 51182 of the California Government Code requires properties within a Local Responsibility Area, LRA, (not an SRA) designated as Very High Fire Hazard Severity Zone, to maintain defensible

space of a minimum of 100 feet from each side and from the front and rear of the structure, but not beyond the property line unless otherwise specified by an agency having jurisdiction over the property. Although development of the proposed project would place all proposed uses within one of these zones, the proposed project would include extensive defensible space, as required by the 2010 California Fire Code, where significant fuel reduction and management can occur to separate and minimize the effect of wildland fires within the project areas. Additionally, the project would include hydrants, fire sprinklers, vegetation management plans, and building materials, as required by Chapter 7A of the California Building Code. Consistency with required defensible space, impacts would be less than significant.

Table 4.9-3 Fire Severity Zone Designation

Name	State Responsibility Area (SRA)/Local responsibility Area (LRA)	Hazard Code	Hazard Class	Required Defensible Space from Structures
SITE 1	SRA	3	Very High	100 feet
SITE 2	SRA	3	Very High	100 feet
SITE 3	LRA	3	Very High	100 feet
SITE 4	LRA	3	Very High	100 feet
SITE 5	LRA	3	Very High	100 feet
SITE 6	LRA	3	Very High	100 feet
SITE 7	SRA	3	Very High	100 feet
SITE 8	SRA	3	Very High	100 feet
SITE 9	LRA	3	Very High	100 feet
SITE 10	SRA	1	Moderate	100 feet
SITE 11	SRA	1	Moderate	100 feet
SITE 12	SRA	1	Moderate	100 feet
SITE 13	SRA	1 and 2	Moderate and High	100 feet
SITE 14	SRA	1 and 2	Moderate and High	100 feet
SITE 15	SRA	1 and 2	Moderate and High	100 feet
SITE 16	SRA	1 and 2	Moderate and High	100 feet
SITE 17	SRA	1 and 2	Moderate and High	100 feet
SITE 18	SRA	1 and 2	Moderate and High	100 feet

Source: Cal Fire Severity Maps, 2007 and 2008

The Nevada County General Plan and 2020 General Plan include specific goals, objectives, policies and implementation strategies that address fire hazard reduction considerations and ways of reducing risk from wildland fires. Existing standards for development provide adequate access, fire flows, and other facilities to maintain an appropriate level of fire protection, and are derived from the California Building Code, the California Fire Code, and the California Mechanical Code. Additionally, the project would be required to comply with NCCFD’s Fuel Management and Hazard Reduction Program. This program includes NCCFD inspections of developed and undeveloped parcels to ensure compliance with Public Resources Code 4291, which was developed to minimize a fire extending from a structure to wildlands, and now contains defensible space regulations. Project adherence to County and City wildland fire-related codes, policies and programs would reduce potential risk of loss, injury, or death involving wildland fires. Also, implementation of Mitigation Measures 4.13-

1b and 4.13-1c, requiring preparation of vegetation fuel management plans and a requirement of adequate fire service availability, would ensure wildland fire-related impacts would be reduced to less than significant levels.

Mitigation Measures:

The following mitigation measures apply to all sites.

Implement Mitigation Measures 4.13-1b and 4.13-1c.

Level of Significance After Mitigation: Less Than Significant Impact.

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4.10 HYDROLOGY AND WATER QUALITY

This section evaluates potential hydrology and water quality impacts that could result from the Nevada County Housing Element Rezone. Mitigation measures for potential impacts are identified where applicable. Information in this section comes from County of Nevada GIS mapping analysis as well as existing federal, state, and local regulations.

4.10.1 ENVIRONMENTAL SETTING

CLIMATE

Located on the western slope of the Sierra Nevada Mountain Range, Nevada County (County) enjoys a temperate climate with seasonal variations consisting of hot dry summers and cold wet winters. Average temperatures range from a low of 34 degrees Fahrenheit (°F) in January to a high of 91°F in July. Precipitation falls primarily from November to April in the form of both rain and snow with snow falling most winters. The majority of precipitation falls in December, January, and February.

WATERSHEDS

The proposed project areas lie within the Upper Bear and Upper Yuba subbasins. Both subbasins exist within the American River subregion, which consists of roughly 5,375 square miles and includes portions of six counties. More specifically, the project sites are located within three watersheds (Sites 1-9, 14, and 17 are in the Wolf Creek Watershed, Sites 10-13 are in the Deer Creek Watershed, and Sites 15, 16, and 18 are in the Middle Bear Watershed).

The Upper Bear subbasin, which incorporates the Grass Valley area sites and the Lake of the Pines area sites, originates about 20 miles west of the crest of the Sierra Nevada in northern Placer County within the boundaries of the Tahoe National Forest. The Bear River flow patterns are high in the winter and spring and very low in the summer and fall. Bear River flows are regulated almost entirely by several storage reservoirs and numerous diversions.

The Upper Yuba subbasin, which incorporates the Penn Valley area sites, flows southward, then southwest, through the Sierra Nevada foothills. There are more than 100 jurisdictional dams and diversions in the Yuba River watershed which convey water to local users in the Bear and North Fork American River Watersheds. Flows in the watershed are also high in the winter and spring, but decrease quickly in late spring.

Both subbasins contain a significant amount of sediment and mercury as a result of past hydraulic mining that occurred in the area, and recent construction associated with rural housing development, logging, and recreation. Several rivers within both watersheds are listed on the Clean Water Act's 303(d) list of impaired waterbodies. The Yuba River still supports a highly valued population of steelhead trout, rainbow trout and fall-run Chinook salmon, along with other resident fish communities. The Bear River also supports a popular fishery for rainbow and brown trout; however, salmon and steelhead runs have declined from low flows in the lower river.

SURFACE WATER QUALITY

Common Stormwater Runoff Constituents

The most common categories of stormwater pollutants are described below. Receiving waters can assimilate a certain quantity of various runoff constituents. However, there are thresholds beyond which a measured constituent becomes a pollutant and results in an undesirable impact.

Sediment

Sediment is made up of tiny soil particles that are washed or blown into surface waters. It is typically the major pollutant by volume in surface water. Suspended soil particles can cause the water to look cloudy and be turbid. The fine sediment particles also act as a vehicle to transport other pollutants, including nutrients, trace metals and hydrocarbons. Construction sites are the largest source of sediment for urban areas under development. Another major source is stream bank erosion, which may be accelerated by increases in peak flow rates and volumes of runoff due to urbanization. Agricultural operations are the largest source of sediment in rural areas.

Nutrients

Nutrients are a major concern for surface water quality, especially phosphorous and nitrogen, which can cause algal blooms and excessive vegetative growth. Of the two, phosphorus is usually the limiting nutrient that controls the growth of algae in lakes or other non-moving water bodies. The orthophosphorous form of phosphorus is a readily available nutrient for plant growth. Orthophosphate from automobile emissions also contributes phosphorus in areas with heavy automobile traffic.

The ammonium form of nitrogen can also have severe effects on surface water quality. Ammonium is converted to nitrate and nitrite forms nitrogen in a process called nitrification. This process consumes large amounts of oxygen, which can impair the dissolved oxygen (DO) levels in water. The nitrate form of nitrogen is very soluble and is found naturally at low levels in water. When nitrogen fertilizer is applied in excess of plant needs, nitrates can leach below the root zone, eventually reaching groundwater.

Generally, nutrient export is greatest from agricultural areas and developed areas with large impervious areas. Other problems resulting from excess nutrients are surface algal scums, water discolorations, odors, toxic releases, and overgrowth of plants. Common measures of nutrients are total nitrogen, organic nitrogen, total Kjeldahl nitrogen (TKN), nitrate, ammonia, total phosphate, and total organic carbon (TOC).

Trace Metals

Trace metals are primarily of concern because of their toxic effects on aquatic life and their potential to contaminate drinking water supplies. A shorter duration of exposure to a trace metal reduces its toxicity in the aquatic environment. The toxicity of trace metals in runoff also varies with the hardness of the receiving water. As total hardness of the water increases, so does the potential for adverse effects. Metals commonly found in urban runoff are lead, zinc and copper. Automobile emissions are also a major source of lead in urban areas. In the project area, pollution concerns from heavy metal mining include arsenic, iron, manganese, mercury, lead and aluminum. A large fraction of the trace metals in stormwater runoff is attached to sediment. Sediment effectively reduces the level of trace metals that are

immediately available for biological uptake and subsequent bioaccumulation (metals attached to sediment settle out rapidly and accumulate in the soil).

Oxygen-Demanding Substances

Aquatic life is dependent on DO in water. When microorganisms consume organic matter, DO is consumed in the process. A rainfall event can deposit large quantities of oxygen-demanding substances in lakes and streams. A problem from low DO can result when the rate of oxygen-demanding material exceeds the rate of oxygen replenishment. Oxygen demand is estimated by direct measure of DO and indirect measures such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), oils and greases, and TOC.

Bacteria

Bacteria levels in undiluted urban runoff exceed public health standards for water contact recreation (including canoeing and rafting), almost without exception. Studies have found that total coliform bacteria counts exceed U.S. Environmental Protection Agency (EPA) water quality criteria at almost every site examined and almost every time it has rained. The coliform bacteria that are detected may not be a health risk in themselves, but are often associated with human pathogens.

Oil and Grease

Oil and grease contain a wide variety of hydrocarbons, some of which could be toxic to aquatic life in low concentrations. These materials initially float on water and create the familiar rainbow-colored film. Hydrocarbons have a strong affinity for sediment and quickly become absorbed in it. The major source of hydrocarbons in urban runoff is through leakage of crankcase oil and other lubricating agents from automobiles onto impervious surfaces. Hydrocarbon levels are highest in the runoff from parking lots, roads and service stations. Residential land uses generate less hydrocarbons export, although illegal disposal of waste oil into stormwater can be a local problem.

Monitoring and Evaluating Water Quality

The physical properties and chemical constituents of water have served traditionally as the primary measures for monitoring and evaluating water quality. Evaluating the condition of water with a water quality standard means evaluating its physical, chemical and/or biological characteristics. Water quality parameters for stormwater comprise a long list and are classified in many ways. In some cases, the concentration of a pollutant, rather than the annual load of that pollutant, is needed to assess a water quality problem.

The pH data characterizes the alkalinity or acidity of surface waters and is a general indication of the overall health of surface waters. A neutral pH is 7.0 and a neutral pH range is usually considered to be between 6.0 and 8.0. Turbidity measurement is a key test of water quality. Higher turbidity measurements are generally associated with higher metal concentrations, as metals tend to attach to small particles. Dissolved oxygen is a measurement of the amount of gaseous oxygen dissolved in an aqueous solution. It is an indication of the potential for various aquatic organisms to survive in a particular environment. Dissolved oxygen generally decreases as water temperature increases. Thus, water temperature also has an effect on aquatic habitat.

Water Quality Standards

The California Regional Water Quality Control Board, Central Valley Region, Water Quality Control Plan (Basin Plan) establishes the water quality standards for the Sacramento and San Joaquin River Basins. The standards set forth in the Basin Plan act as regulatory references for meeting state and federal requirements for water quality control. The Basin Plan does not specify target concentrations for lead, mercury, aluminum or magnesium, but it does specify targets for arsenic (10 µg/l), barium (100 µg/l), copper (5.6 µg/l), iron (300 µg/l) and manganese (50 µg/l). Concentrations of arsenic, barium and manganese in Wolf Creek fall within Basin Plan objectives, but concentrations of copper and iron exceed Basin Plan objectives.

FLOODING

According to the National Flood Insurance Program (NFIP), administered by Federal Emergency Management Agency (FEMA), portions of two of the proposed project sites (Sites 10 and 13 in the Penn Valley area) are located within a floodway and Special Flood Hazard Area (floodplain). The Flood Insurance Rate Map (FIRM) panel (06057C0608E) that covers the Penn Valley proposed project sites shows the area along Squirrel Creek that runs in between Sites 10 and 13 to be partially in a regulated floodway, and partially in a Special Flood Hazard Area (SFHA) with a 1-percent-annual-chance flood. Portions of the sites located within the SFHA will require flood insurance since these areas are subject to inundation by the 1-percent annual chance flood event. Portions of the sites located in the floodway should be kept free from encroachment in order to discharge the 1-percent-annual-chance flood without increasing flood levels by more than 1.0 foot.

All other proposed project sites are not within a NFIP designated flood hazard zone and would therefore have an extremely low risk of flooding.

4.10.2 REGULATORY SETTING

FEDERAL FRAMEWORK

Clean Water Act

The Clean Water Act (CWA) places the primary responsibility for surface water pollution control and water resources development planning with the states. However, the act requires the states to follow certain guidelines in developing their programs and allows the U.S. Environmental Protection Agency (EPA) to withdraw control from states with inadequate implementation mechanisms. The CWA requires states to adopt water quality standards for receiving surface water bodies and to have those standards approved by the EPA. Water quality standards consist of designating beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply and fishing), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents, such as lead, suspended sediment, and fecal coliform bacteria or narrative statements which represent the quality of water that supports a particular use.

Section 303(d) – Total Maximum Daily Loads

When water quality does not meet CWA standards and compromises designated beneficial uses (e.g., wildlife habitat, agricultural supply and fishing) of a particular receiving water body, Section 303(d) of the CWA requires that water body be identified and listed as

“impaired.” Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point and natural sources that a water body may receive without exceeding applicable water quality standards (with a “factor of safety” included). Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

Section 401 Water Quality Certification

Under Section 401 of the CWA (33 USC 466 et seq.), every discharger that may discharge pollutants into the waters of the U.S. must apply for a federal permit or license (including permits under Section 404 of the CWA) to ensure that the proposed activity complies with state water quality standards.

Section 402 National Pollutant Discharge Elimination System General Construction Storm Water Permit

In 1972, the Federal Water Pollution Control Act (later referred to as the CWA) was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to navigable waters of the U.S. from any point source. In 1987, the CWA was amended to require that the EPA establish regulations for the permitting of municipal and industrial stormwater discharges under the NPDES permit program. The EPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that municipal storm sewer system discharges to surface waters be regulated by a NPDES permit. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

STATE FRAMEWORK

Waters of the state consist of all surface water or groundwater, including saline waters, within the boundaries of the State of California. Nevada County requires adherence to all state and federal water quality standards, therefore the requirements listed below will pertain to all sites within the County’s jurisdiction.

California Toxics Rule

Because California had not established a complete list of acceptable water quality criteria, the EPA (under the authority of the CWA) established numeric water quality criteria in the form of the California Toxics Rule (CTR) (40 CFR 131.38), which was finalized May 18, 2000. CTR covers potentially toxic constituents in receiving waters with human health or aquatic life designated uses.

Porter-Cologne Water Quality Control Act

California’s primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code). The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) grants the State Water Resources Control Board (SWRCB) and each of the nine Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California’s responsibilities under the CWA. The applicable RWQCB for the project area is the Central Valley Regional Water Quality Control Board (CVRWQCB). Under the Porter-Cologne Act, the SWRCB and

RWQCBs have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Central Valley Regional Water Quality Control Plan (Basin Plan)

As required by the California Water Code (Section 13240) and supported by the CWA, each RWQCB must formulate and adopt a water quality plan (Basin Plan) for its region. The Basin Plan includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the CWA, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain water quality standards. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels needed to meet the beneficial uses, plans for improving water quality are included. The Basin Plan reflects, incorporates and implements applicable portions of a number of national and statewide water quality plans and policies, including the Porter-Cologne Act, California Water Code and the CWA.

The beneficial uses identified for Bear River by the Basin Plan include the following: municipal and domestic supply, agricultural irrigation and stockwatering, hydropower generation, water contact recreation (including canoeing and rafting), non-contact water recreation (such as hiking, camping or boating), warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, cold spawning habitat and wildlife habitat.

Beneficial uses identified for Wolf Creek consist of groundwater recharge and freshwater replenishment. The RWQCB has identified specific water quality objectives to support the designated beneficial uses that account for the presence of bacteria and aquatic growth substances, chemical constituents such as trace elements, color, DO, floating material, methylmercury, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity and turbidity.

The beneficial uses for Deer Creek include municipal and domestic supply, irrigation, stock watering, water contact recreation (including canoeing and rafting), non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, cold fish migration habitat, warm and cold spawning habitat, and wildlife habitat.

Non-Point Source Management Plan (SWRCB Resolution No. 88-123)

In addition to the Basin Plan, a number of water quality control plans and policies adopted by the SWRCB direct the RWQCB's actions. In 1988, the SWRCB adopted the Nonpoint Source Management Plan, which established the framework for statewide nonpoint source activities. Four of the six statewide objectives and implementation strategies to manage nonpoint source problems are included in the plan. Nonpoint source pollution comes from many diffuse sources including agriculture (pesticides, herbicides), urban runoff

(construction sites, roads, industry, and residential areas), marinas and boating, hydromodification and mining.

NPDES General Permit for Stormwater Discharges Associated With Construction Activity

As described previously, NPDES permits are required for discharges of pollutants to navigable waters of the U.S. These waters consist of surface waters such as lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands and storm sewers that are tributary to any surface water body.

The RWQCB issues NPDES permits in lieu of direct issuance by the EPA, subject to review and approval by the EPA Regional Administrator (EPA Region 5 for the proposed project). The terms of these NPDES permits implement pertinent provisions of the CWA and the act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

Construction activities disturbing one acre or more of land are subject to the permit requirements of the NPDES program. The developer must file a Notice of Intent (NOI) to seek coverage under the statewide General Construction Activity Stormwater Permit (General Permit) prior to the beginning of construction and prepare and maintain a Stormwater Pollution Prevention Plan (SWPPP) per County and state ordinances. The NOI would be submitted to the Division of Water Quality of the SWRCB. The SWPPP should be developed to meet the following objectives:

- Identify pollutant sources that may affect the quality of discharges of stormwater associated with construction activity from the construction site
- Identify, construct, implement and maintain best management practices (BMPs) to reduce or eliminate pollutants in stormwater discharges from the construction site during construction
- Develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs)

LOCAL FRAMEWORK

As previously mentioned above, all sites will be subject to state ordinances in regards to compliance with the NPDES program and the preparation of a SWPPP. Additionally, Sites 10-18 will require compliance with the goals and objectives of the County standards, and Sites 1-9 will be subject to the stormwater and water quality standards from several Grass Valley City codes, plans, and programs.

Nevada County General Plan Standards

The County General Plan (1995) Water Element (Chapter 11) identifies the primary goal:

(Goal 11.1): "Identify, protect and manage for sustainable water resources and riparian habitats" with the following related objectives:

- (1) Objective 11.1 promote and provide for conservation of domestic and agricultural water;
- (2) Objective 11.2 preserve and, where feasible, improve surface and subsurface water quality;
- (3) Objective 11.3 preserve and, where economically feasible, restore the density and diversity of water-dependent species and continuous riparian habitats;
- (4) Objective 11.4, preserve the integrity and minimize disruption of watersheds and identified critical water courses; and
- (5) Objective 11.5, support appropriate acquisition, development, maintenance and restoration of habitats suitable for wildlife enhancement.

The following policies are associated with objectives 11.1 through 11.5:

- Objective 11.1 One action policy and three directive policies are identified, including:
- (1) Policy 11.1, adopt water conservation standards consistent with state standards (action policy);
 - (2) Policy 11.2, encourage protection of resources that produce water for domestic and agricultural use;
 - (3) Policy 11.3, promote protection of water quality where water is transported in open canals;
 - (4) Policy 11.3A, provide a comprehensive and organized system of well log data.
- Objective 11.2 The following five directive policies are identified:
- (1) Policy 11.4, cooperate with state and local agencies to identify and reduce acceptable levels of point and non-point source pollution;
 - (2) Policy 11.5, maintain operation of the Nevada County Water Agency Advisory Council to continue efforts to protect and enhance County water resources;
 - (3) Policy 11.6, continue to enforce regulations related to the installation and operation of private sanitary waste disposal systems;
 - (4) Policy 11.6A, minimize the discharge of pollutants from new developments through appropriate design and maintenance requirements; and
 - (5) Policy 11.6B, provide a comprehensive and organized database on the effects of septic tank/leach field systems on groundwater quality.
- Objective 11.3 The following two action and directive policies are identified:
- (1) Policy 11.7, establish appropriate building setback requirements for perennial streams and significant wetlands to protect associated resource values (action policy); and
 - (2) Policy 11.8, use voluntary clustering of development to preserve stream corridors, riparian habitat, wetlands and floodplains.

- Objective 11.4 The following four directive policies are identified:
- (1) Policy 11.9, maintain low development densities in rural areas to protect existing watersheds;
 - (2) Policy 11.9A, ensure that grading and development plans include appropriate flood hazard protections and avoidance of additional flood damage potential prior to approval;
 - (3) Policy 11.9B, require that new utilities, critical facilities and non-essential public structures be located outside of 100-year floodplains where feasible, or avoid any associated increase to flood-related hazards; and
 - (4) Policy 11.9C, require that the habitable portions of residential structures within a 100-year floodplain be located above the 100-year flood level, and require that non-residential structures be appropriately elevated or flood-proofed without causing floodwater displacement where appropriate.
- Objective 11.5 The following two directive policies are identified:
- (1) Policy 11.10, cooperate with state/federal agencies and other applicable organizations to acquire, restore and maintain habitat areas; and
 - (2) Policy 11.11, encourage the U.S. Bureau of Land Management and U.S. Forest Service to restore/maintain habitat areas on federal lands.
- The County General Plan (1995) Soils Element (Chapter 12) identifies the primary goal:
- (Goal 12.1): to “Minimize adverse impacts of grading activities, loss of soils and soil productivity” with the following related objectives:
- (1) Objective 12.1 minimize earth movement and disturbance;
 - (2) Objective 12.2, minimize erosion due to road construction and maintenance; and
 - (3) Objective 12.3 minimize vegetation removal. The following policies are associated with objectives 12.1 and 12.2 (with no policies identified for objective 12.3 in Chapter 12):
- Objective 12.1 Three associated directive policies are identified, including:
- (1) Policy 12.1, enforce grading and erosion control requirements through appropriate monitoring efforts;
 - (2) Policy 12.2, enforce grading and vegetation removal requirements for activities not associated with a development project; and
 - (3) Policy 12.3, coordinate/encourage erosion control through efforts such as provision of public educational materials.
- Objective 12.2 Two associated directive policies are identified, including:
- (1) Policy 12.4, require erosion control measures as an element of all County contracts, discretionary permits and ministerial projects; and (2) Policy 12.5, provide support to the Resources Conservation

District and related agencies in providing education/support to assist the general public in implementing techniques to minimize erosion.

Nevada County Land Use and Development Code

Section L-II 4.3.17 Watercourses, Wetlands and Riparian Areas establishes policies to preserve the integrity and minimize disruption of watersheds and watercourses. To preserve stream corridors and riparian habitat, ensure adequate protection of stream values and protect stream corridors for wildlife movement and foraging. To avoid the impact of development on wetlands, or where avoidance is not possible, to minimize or compensate for such impacts, to provide for minimum setbacks to protect resources values, and to retain wetlands as non-disturbance open space.

Specifically, the chapter outlines the following development standards:

A project shall be approved only when not within the following non-disturbance buffers, unless a Management Plan is prepared, consistent with the U.S. Fish and Wildlife Service, State Department of Fish and Game, and U.S. Army Corps of Engineers standards below, or unless greater or lesser setbacks are delineated on the Zoning District Map, which shall be adhered to:

- For all applicable projects, the developer shall have a Biological Inventory prepared by a qualified biologist, to determine whether the habitat for the defined resource, or the resource itself may be affected by a proposed project.
- Within 100' of the high water mark of perennial streams and watercourses.
- Within 50' from the high water mark of intermittent watercourses.
- Within 100' of all wetlands and riparian areas.
- Within 100' of the canal water surface on the uphill side of a canal; and within 20' of the water surface on the downhill side of a canal.
- A project shall be approved only when it is determined by the Planning Agency that it will not adversely affect any wetlands over one acre, or riparian areas, and that it will result in no net loss of habitat functions or values of the wetlands or riparian area.
- Project developers shall obtain appropriate authorizations from the U.S. Fish and Wildlife Service, State Department of Fish and Game, and U.S. Army Corps of Engineers prior to project approval. Any provisions to avoid, mitigate, or compensate for impacts to the wetlands or riparian areas contained in such authorizations shall become conditions of project approval.
- If the above standards effectively preclude development of the project or a revised project, or adversely affect another environmentally sensitive resource, a Management Plan, prepared by a qualified biologist or botanist, shall be prepared that avoids or minimizes impacts to the resource.

An alternative is the on-site or off-site creation, restoration, replacement, enhancement, or preservation of wetlands or riparian areas. This alternative may be preferred where the remaining protected wetlands or riparian areas are small, isolated, and of low habitat value. Such areas shall take into account both site location and wetland or riparian type.

The following wetland or riparian area types shall be allowed as mitigation in descending order of general acceptability:

- In-kind, On-site
- In-kind, Off-site
- Out-of-kind, On-site
- Out-of-kind, Off-site

Such wetlands or riparian areas shall be maintained in perpetuity in order to compensate for the permanent effect of the project through recordation of a restrictive document. Such wetlands or riparian areas shall ensure full replacement of wetland or riparian areas lost at a minimum of not less than a 2:1 ratio.

Mitigation can involve the purchase of compensatory habitat acreage within Nevada County of comparable or superior quality within a qualified wetland or riparian area mitigation banking site in Nevada County ensuring full replacement consistent with the above standard. The bank developer shall provide assurance to the County that the created wetlands or riparian areas are permanently protected and maintained.

These standards shall not apply to open air structures, including docks, piers, boat hoists and canopies, as defined in Section 4.2.5.G.5.

Chapter V (Buildings) Article 19 (Grading) of the Nevada County Land Development Code sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes standards of required performance in preventing or minimizing water quality impacts from storm water runoff; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction, drainage, and erosion and sediment controls at construction sites. In particular, Article 19 establishes the following grading permit requirements:

- Except as exempted in Sec. L-V 19.3 of this Code, no person shall do any grading without first obtaining a grading permit from the Building Official. A separate permit shall be obtained for each site, and may cover both excavations and fills.
 - No person shall do or permit to be done any grading in such a manner that quantities of dirt, soil, rock, debris, or other material substantially in excess of natural levels are washed, eroded, or otherwise moved from the site, except as specifically provided for by a permit.
 - No person shall do or permit to be done any grading which may obstruct, impede or interfere with the natural flow of storm waters, whether such waters are unconfined upon the surface of the land or confined within land depressions or natural drainage ways, unimproved channels or watercourses, or improved ditches, channels or conduits, in such manner as to cause flooding where it would not otherwise occur, aggravate any existing flooding condition or cause accelerated erosion except where said grading is in accordance with all applicable laws, including but not limited to, these permit requirements.
 - Pond Construction and design shall be done in conformance with the most recent Conservation Practice Standard, "Pond" (Code 378) as published by the Natural Resources Conservation Service.

- The provisions of Section 105, Appendix Chapter 1, are applicable to grading. Additionally, the application shall state the estimated quantities of work involved.
- Grading shall be performed in accordance with the approved grading plan prepared by registered design professional, and shall be designated "engineered grading" The Building Official may waive this requirement if the proposed grading is minor in nature and would not endanger the public health, safety and welfare. This grading shall be designated "regular grading".

In issuing a permit, the Building Official may impose conditions as prescribed by Chapter V necessary to protect the health, safety and welfare of the public, to prevent the creation of a hazard to public or private property, and to assure proper completion of the grading, including, but not limited to:

- Mitigation of adverse environmental impacts as disclosed by any environmental document findings;
- Improvement of any existing unstable grading affected by this permit to comply with the standards of this Chapter;
- Protection of grading which would otherwise be hazardous;
- Dust, erosion and sediment control, and season of work, weather conditions, sequence of work, access roads and haul routes;
- Safeguard watercourses from excessive deposition of sediment or debris;
- Safeguard areas reserved for on-site sewage disposal, water supply and hazardous material storage;
- Assurance that the land area in which grading is proposed and for which habitable structures are proposed is not subject to hazards of land slippage or significant settlement or erosion;
- Compliance with all applicable provisions of the Nevada County Land Use and Development Code;

If grading operations are commenced before first securing a proper permit, no permit will be issued until illegal grading has stopped. In the event that no grading permit, erosion control permit or land use permit can be issued for such operation, the site shall be restored to its original condition to the extent feasible, and to the extent full restoration is not possible mitigation measures may be imposed to remediate any damage caused. Restoration shall be in conformity to an approved restoration plan.

Winter operations shall not be allowed if an immitigable high potential for accelerated erosion exists due to slope, rock or soil type, proximity to a stream or drainage course, magnitude or duration of disturbance, or other characteristics of the project and the site.

City of Grass Valley Stormwater Management Program

The City Stormwater Management Program (SWMP) was developed in June 2003 to address stormwater quality within the City's jurisdiction in compliance with a statewide general permit for discharging stormwater to waters of the state. The SWMP addresses a wide variety of activities conducted in urbanized areas of the City that are sources of pollutants in stormwater. The SWRCB identified the City as a municipality that would be subject to the General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (referred to as "Small MS4 General Permit" where MS4 stands for Municipal

Separate Storm Sewer System). The City was identified by the SWRCB as a municipality that would be subject to this permit because: 1) it discharges stormwater to sensitive waterbodies (Yuba River and Bear River) listed as impaired; and 2) the area's population density is greater than 1,000 residents per square mile (in fact, there are more than 2,600 residents per square mile).

To comply with the permit, the City must implement BMPs that reduce pollutants in stormwater to the "maximum extent practicable" (MEP). MEP is the technology-based standard established by Congress in CWA Section 402(p)(3)(B)(iii). Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally a result of emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with treatment methods serving as additional lines of defense, where appropriate. The MEP approach is an ever-evolving, flexible and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. The way in which MEP is met may vary among communities.

Consistent with EPA guidance, the Small MS4 General Permit requires the City to develop and implement six "minimum control measures" (referred to as "program elements" for the SWMP). These six program elements are:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge
- Construction Activities
- New Development and Redevelopment
- Municipal Operations

The program elements, with control measures and associated BMPs, form a comprehensive programmatic framework that reduces pollutants in stormwater to the MEP. Implementation is monitored by a designated administrator and program effectiveness assessed annually over the permit period. The SWMP will be revised annually as necessary to address areas identified as deficient during the effectiveness evaluation process. Since adoption of the program, the City has been in compliance with the Small MS4 General Permit with regard to the six program elements.

In addition to the SWMP, the Stormwater Master Plan and Criteria, prepared by Cranmer Engineering, Inc., dated March 1986, is relevant to the design of stormwater facilities and future capacities of stormwater facilities in the City and is referenced in the City of Grass Valley Improvement Standards, dated March 2009.

City of Grass Valley Community Design Guidelines

The City of Grass Valley adopted Community Design Guidelines in February 2003 that include specific erosion and sediment control guidelines. The erosion and sediment control guidelines were taken by permission from the Nevada County Resource Conservation District and incorporated by reference in the Grass Valley Design Review Manual. General, temporary and permanent erosion control guidelines are specified and required to be included in final project design.

City of Grass Valley 2020 General Plan

The 2020 General Plan includes several goals, objectives and policies with respect to protection of natural hydrologic resources, including the following:

Conservation/Open Space Element

Goal 1-COSG	Provide a balance between development and the natural environment, protecting and properly utilizing Grass Valley's sensitive environmental areas/features, natural resources and open space lands.
Objective 4-COSO	Reduction of urban development impacts on native vegetation, wildlife and topography.
Objective 6-COSO	Assurance of appropriate resource conservation and environmental protection measures as prerequisites to development.
Goal 2-COSG	Protect, enhance and restore hydrologic features, including stream corridors, flood plains, wetlands and riparian zones.
Objective 8-COSO	Minimize interference with the natural functions of flood plains and naturally flood-prone areas.
Goal 6-COSG	Assure compliance with and understanding of air and water quality regulations and standards.
Objective 15-COSO	Protection of ground and surface water quality.
Objective 16-COSO	Inclusion of air and water quality considerations in land use decisions rendered by the Planning Commission and City Council.
Policy 3-COSP	Encourage clustering, density averaging and other techniques in larger-scale new developments, as means of preserving open space and natural systems.
Policy 5-COSP	Carefully regulate development on steep slopes.
Policy 6-COSP	Prevent excessive alteration of the natural topography.
Policy 9-COSP	Carefully regulate development for location in flood hazard areas.
Policy 21-COSP	Continue to implement water quality improvement plans, including storm water separation and sewage treatment plant expansion.

Safety Element

Goal 1-SG	Reduce the potential risk of death, injury, property damage and economic and social dislocation resulting from hazards.
Objective 3-SO	Reduction of risk from exposure to flood hazards.
Policy 5-SP	Maintain or return to open space lands subject to flooding.

City of Grass Valley Development Code

Article 5 (Resource Management) Chapter 17.50 (Creek and Riparian Resource Protection) of the Grass Valley Development Code specifies standards to protect watercourses and riparian areas from the effects associated with development. Chapter 17.50 applies to any development adjacent to or crossed by any creek shown as a blue line on any current U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle map, as well as three specific watercourses (Magenta Ravine, Peabody Creek and Slide Ravine). In particular, Chapter 17.50 requires a site-specific streambed analysis to identify the precise boundary/top of bank of a watercourse, and establishes the following development standards:

- For properties being annexed into the City, each proposed structure shall be set back from the watercourse: 30 feet in a lot with an average depth of less than 155 feet, 40 feet in a lot with an average depth between 156-175 feet, 60 feet in a lot with an average depth between 176-225 feet and 100 feet in a lot with an average depth of more than 226 feet
- No developed feature, other than a path or trail, may be constructed within a watercourse setback
- No natural features located within a watercourse setback may be altered with the exception of work that is authorized for flood control purposes by permits issued by the California State Department of Fish and Game, and/or all other applicable local, State, and Federal agencies having authority over the creek or as otherwise provided by the Chapter
- Above ground drainage improvements shall be designed to be unobtrusive and fit in with the natural environment through use of native plant materials or other natural and neutral materials
- If watercourse bank stabilization is necessary, rehabilitation with an emphasis on maintaining the natural character of the watercourse and riparian area is preferred over other more intrusive techniques (concrete channels and other mechanical stabilization, etc.), if feasible
- Proposed subdivisions and other development shall provide public access to watercourses
- Open space areas within watercourse setbacks shall include planting for riparian enhancement with native shrubs and trees
- Open space areas outside of watercourse setbacks may include paths and trails, lighting, benches, play and exercise equipment and trash receptacles, where appropriate

Article 6 (Site Development Regulations) Chapters 17.60 (Grading Permit Requirements and Procedures) and 17.62 (Grading, Erosion and Sediment Control Standards) of the Grass Valley Development Code, collectively known as the City of Grass Valley Grading Ordinance (Grading Ordinance), establish standards for grading, including filling and excavation activities. The provisions set forth in the Grading Ordinance apply to all excavation, fill or other grading activities occurring within the City. Specifically, the Grading Ordinance requires a grading permit from the City's Engineering Department for any excavation or fill; dredging activities involving wetlands or riparian areas; earthwork, paving, surfacing or other construction that alters an existing drainage pattern of surface water leaving a site; and any other grading activity that causes substantial erosion. In addition to requiring a

grading permit for certain activities, the Grading Ordinance also establishes standards for the proper conduct of grading operations, as well as site development activities not involving grading permits. Requirements and standards established by the Grading Ordinance include the following:

- Approval of a Dust Prevention and Control Plan by the City Engineer. The plan must demonstrate that the discharge of dust from the construction site would not occur, or can be controlled to an acceptable level depending on the particular site conditions and circumstances. It must also comply with the NPDES Stormwater Regulations as adopted by the City.
- Drainage improvements for site runoff, including runoff from all roadways and other impervious surfaces, shall be engineered to minimize erosion.
- BMPs for construction shall be implemented to reduce erosion and sediment (minimal grading during the rainy season, slope surface stabilization, use of plastic covering and erosion control devices, prohibition on washing construction vehicles, etc.).
- Excavations and fills should be limited to minimum amount necessary and shall be designed to maximize retention of natural land forms and features with final contours blended with adjacent natural terrain to achieve a consistent grade and natural appearance.
- Grading shall be designed and grading operations shall be conducted to minimize the removal or disturbance of native vegetation to the maximum extent feasible.
- Where natural vegetation has been removed through grading in areas that are not to be occupied by structures, the areas shall be replanted in compliance with an approved revegetation plan and the Grading Ordinance to prevent erosion after construction is completed.
- Grading, dredging or diking shall not alter any intermittent or perennial stream, or natural body of water, except as permitted through approval of a grading permit in compliance with the Grading Ordinance, any planning permits required by the City's Development Code, and any necessary permits from the California Department of Fish and Game, Army Corps of Engineers, and Regional Water Quality Control Board
- Specific setbacks from property lines for cut and fill slopes.
- Design and construction of drainage systems and facilities in compliance with the City's Storm Water Management Plan, the City Improvement Standards, and all other applicable City drainage requirements.
- Proposed grading projects shall include design provisions to retain offsite natural drainage patterns, and limit the quantities and velocities of peak runoff to predevelopment levels.
- Grading or structures are not permitted in an area determined by the City Engineer to be subject to flood hazard by reason of inundation, overflow, high velocity or erosion with some exceptions.

4.10.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, there would be a significant hydrology or water quality impact if:

- The proposed project violates any water quality standards or waste discharge requirements
- The proposed project substantially depletes groundwater supplies or interferes 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 preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)
- The proposed project substantially alters 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 offsite
- The proposed project substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increases the rate or amount of surface runoff in a manner that would result in flooding on or offsite
- The proposed project creates or contributes runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- The proposed project will otherwise substantially degrade water quality
- The proposed project places 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
- The proposed project places within a 100-year flood hazard area structures which could impede or redirect flood flows
- The proposed project exposes people or structures to a significant risk of loss, injury or death involving flooding, including as a result of the failure of a levee or dam
- The proposed project could be inundated by seiche, tsunami, or mudflow

AREAS OF NO PROJECT IMPACT

The following impacts either are not applicable to the project or are not reasonably foreseeable:

- The proposed project will otherwise substantially degrade water quality

Future development of the proposed project area would not otherwise degrade water quality beyond the impacts discussed in this section. Therefore, no further water quality impacts would result. Any future development within the proposed project area would be required to undergo separate environmental review that would analyze potential impacts on water quality.

- The proposed project could be inundated by seiche, tsunami or mudflow

A seiche is the tide-like rise and drop of water in a closed body of water caused by earthquake-induced seismic shaking or strong winds. The proposed project areas could experience moderate ground shaking caused by earthquakes occurring along offsite faults. However, this level of seismic shaking would not be expected to generate wave motion. All of the project sites, including those sites near the Lake Combie, are at elevations higher than the water level of the lake such that there is no danger of inundation from a seiche. A tsunami is a series of large waves generated by a strong offshore earthquake or volcanic eruption. Tsunamis form in the open ocean and would, therefore, not be a concern for the proposed project area. Finally, the relatively thin soil mantle overlying bedrock within the project area is not conducive to causing damaging mudslides.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Water Quality / Waste Discharge

4.10-1 THE PROPOSED PROJECT COULD VIOLATE WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

A project's impacts on water quality vary depending on three time periods: (1) during the earthwork and construction phase of the project, when the potential for erosion, siltation and sedimentation would be the greatest; (2) following construction, prior to the establishment of any ground cover, when erosion potential may remain relatively high; and (3) following completion of future development, when impacts related to sedimentation would decrease markedly, but those associated with urban runoff would increase.

Future construction activities associated with all of the proposed project sites could negatively affect the water quality of surface waters. Grading and other earth-moving activities during construction would expose soils, which could be eroded and deposited into the surrounding water bodies. This in turn would increase the amount of sediment and turbidity in these water bodies, which could harm aquatic life. Additionally, chemicals or fuels could accidentally spill and be released into receiving waters. The accidental introduction of toxic compounds into surface waters could adversely alter water chemistry.

Future development within all of the proposed project sites would be required to comply with state and local water quality regulations designed to control erosion and protect water quality during construction. This includes compliance with the requirements of the NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit). The General Permit would require preparation and implementation of a SWPPP. The SWPPP must include erosion and sediment control BMPs that would meet or exceed measures required by the General Permit, as well as BMPs that control hydrocarbons, trash and debris and other potential construction-related pollutants. Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. The General Permit requires a SWPPP to include a menu of BMPs to be selected and implemented based on the phase of construction and the weather conditions to effectively control erosion and sediment, as well as proper handling of hydrocarbons, hazardous material and trash and debris onsite. Compliance with state and county water quality regulations would reduce construction-related water quality impacts to a less than significant level.

Additionally, in the Grass Valley area (Sites 1-9), future developers would be required to comply with BMPs identified in the City's SWMP, erosion and sediment control guidelines identified in the City's Community Design Guidelines, applicable 2020 General Plan policies designed to reduce and control pollutants resulting from construction activities, and the specific standards established by the City's Development Code designed to protect watercourses and riparian areas from the effects associated with development. The implementation of BMPs would prevent or minimize environmental impacts and ensure that discharges during the construction phase of the project would not cause or contribute to the degradation of water quality in receiving waters. BMPs may include, but would not be limited to: soil binders, earth dikes and drainage swales, silt fences, sediment basin/traps, gravel bag berms, street sweeping and vacuuming, sand bag/straw bale barriers, vehicle and equipment cleaning, stabilized construction entrances, spill prevention and control, solid waste management, hazardous waste management, concrete waste management, catch basin inserts, good housekeeping practices and sanitary septic water management.

While sedimentation is the primary source of water quality impacts during construction, it would not be considered a significant issue during post-construction and operation because most of the area proposed for development would be paved or landscaped, which would stabilize soils for the long term. However, paved areas would result in an increase in the amount of impervious surfaces within the project area and would increase stormwater runoff generation and flows. In addition, new housing development would result in greater vehicular use of new and existing nearby roadways, which could potentially increase contaminants that would be carried in runoff and discharged into receiving waters. Therefore, after construction and during the life of the proposed project, non-point-source pollutants would be the primary contributors to potential water quality degradation. Non-point-source pollutants would be washed by rainwater from rooftops, landscaped areas, parking areas and other impervious surfaces into the onsite drainage system. Future development within the proposed project area would also contribute non-point-source pollutants to the drainage system, such as chemicals from maintenance and cleaning supplies; landscape materials and products (pesticides, herbicides and fertilizers); oil, grease and heavy metals from automobiles; and petroleum hydrocarbons from fuels.

Pollutant concentrations in runoff from a site depend on numerous factors, including:

- Land use conditions
- Implementation of BMPs
- Site drainage conditions
- Intensity and duration of rainfall
- Climatic conditions preceding the rainfall event

Limiting development adjacent to creeks would significantly reduce the potential for trash or other pollutants associated with urban runoff to be discharged into them. Moreover, planting native vegetation and restoring eroded areas along creeks, as well as minimizing grading near creeks, prohibiting creek trail bridge crossings from encroaching into the streambed below the top of the bank and using existing ranch roads for path locations along creeks would help to prevent erosion and sedimentation of creeks.

To ensure stormwater and water quality are adequately addressed upon the future development of the proposed project area, it will be required for all sites to adhere to Mitigation Measures 4.10-1a – 4.10-1b. The implementation of Mitigation Measures 4.10-1a and 4.10-1b would reduce potential impacts on water quality and storm water discharge to a

less than significant level by reducing pollutants in stormwater discharges to the maximum extent practicable.

Mitigation Measures:

The following mitigation measure applies to Sites 10 and 13:

- 4.10-1a Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department:

Establish all floodplains as Environmentally Sensitive Areas (ESAs) in compliance with the ESA maps in Chapter 3.0. The placement of structures on Sites 10 and 13 must avoid the floodplain ESA. Should development within the floodplain ESA be required, then the developer shall obtain a discretionary use permit for any development within the floodplain and a ministerial management plan for any development within the floodplain 100 foot setback. Prior to construction or vegetation removal, the floodplain ESA shall be designated as an ESA on plans and specifications. All work proposed within the ESA shall not begin until the ESAs are delineated on the ground with orange safety fencing. A biologist shall verify the limits of the ESA fencing on the ground prior to construction. The ESA fences shall remain in place for the entire duration of construction. No earth-moving activities, vehicles, heavy equipment, lay-down areas, or other construction shall be permitted within the ESAs unless as part of a mitigation plan approved by the appropriate permitting agencies. The boundaries of the ESAs shall be clearly shown on all final plans and specifications.

The following mitigation measure applies to all sites:

- 4.10-1b Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9) prepare a Water Quality Management Plan that implements the following items:

Best Management Practices to protect water quality. The contractor shall implement standard Best Management Practices during and after construction. These measures include, but are not limited to:

- a) Construction in or near drainages shall only occur during the dry season.
- b) Coordination with CDFW, U.S. Army Corps of Engineers, and Regional Water Quality Control Board to obtain all required permits and comply with all terms and conditions of the permits.
- c) At no time shall heavy equipment operate in flowing water or saturated soils.
- d) Prior to the start of work, install silt fencing, straw bales, sediment catch basins, straw or coir logs or rolls, or other sediment barriers to keep erodible soils and other pollutants from entering drainages.

Retain existing ground cover to further reduce the potential impacts of the project on erosion along the steep bank. Before the first heavy rains and prior to removing the barriers, soil or other sediments or debris that accumulates behind the barriers shall be removed and transported away for disposal.

- e) Disruption of soils and vegetation near Squirrel Creek (on Sites 10 and 13) shall be minimized to limit potential erosion and sedimentation; disturbed areas shall be graded to minimize surface erosion and siltation; bare soils shall be immediately stabilized and re-vegetated. Seeded areas shall be covered with broadcast straw or mulch. If straw is used for mulch or for erosion control, utilize only certified weed free straw to minimize the risk of introduction of noxious weeds, such as yellow star thistle.
- f) The contractor shall exercise every reasonable precaution to protect nearby water bodies from pollution with fuels, oils, bitumen, calcium chloride and other harmful materials, Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into or near these resources and shall be collected and removed from the site. No slash or other natural debris shall be placed in or adjacent to water bodies. All construction debris and associated materials and litter shall be removed from the work site immediately upon completion.
- g) Provide copies of these BMPs to the Contractors and their workers to assure compliance with mitigation measures during construction.

The following mitigation measure applies to all sites:

- 4.10-1c Prior to approval of a Site Plan, grading plan, or any permit authorizing construction (or as part of the annexation request for sites 1-9) for a property within the RH Combining District, the project developer shall submit, to the satisfaction of the Director of the County Public Works Department (for Sites 10-18), or City Engineer (for Sites 1-9), a project-specific hydrology report to verify expected pre- and post-project stormwater volumes from the proposed development, projected peak storage capacity of detention basins, and percolation characteristics of the soil. The hydrology reports shall confirm that adequate stormwater conveyance and capacity is available in either the region or onsite basins, depending on the chosen option, as well as no net increase in stormwater flow rate to the County's or City's storm drainage system.

The following mitigation measure applies to Sites 1-9:

- 4.10-1d Prior to approval of an annexation request for a property within the RH Combining District, the project developer shall submit, to the satisfaction of the City Engineer (for Sites 1-9), a water quality management plan which include measures that filter pollutants from stormwater in order to ensure that discharged water meets applicable City standards, such as:

Source Control BMPs

- Permeable pavers/pavement

- Hybrid parking areas/parking groves
- Roof runoff controls (i.e., rain barrels)
- Efficient irrigation to minimize runoff of excess irrigation water

Treatment Control BMPs

- Vegetated swales within parking lots
- Vegetated swales on lots (adjacent to pads)
- Bioretention
- Hydrodynamic separators/wet vaults
- Drain inserts

Flow Control BMPs

- Detention

Level of Significance After Mitigation: Less Than Significant Impact

Groundwater Supply / Recharge

4.10-2 THE PROPOSED PROJECT WOULD NOT 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.

Level of Significance Before Mitigation: Less Than Significant Impact With Mitigation

Impact Analysis

Future development of the proposed project sites would obtain water from the Nevada Irrigation District (NID), and would not directly extract groundwater for its water supply. However, the future development of the proposed project sites would result in a net increase of impermeable surface area. Increasing the amount of impermeable surface could indirectly impact surface water and groundwater recharge rates. Therefore, potential impacts on groundwater supply and recharge would require mitigation to confirm that adequate stormwater conveyance and capacity is available in either the region or on-site basins.

Mitigation Measures:

The following mitigation measure applies to all sites:

Implement Mitigation Measure 4.10-1c.

Level of Significance After Mitigation: Less Than Significant Impact

Erosion / Siltation from Drainage Alteration

4.10-3 THE PROPOSED PROJECT COULD SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERNS OF THE SITE OR AREA,

WHICH COULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON OR OFFSITE.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Because future development would involve vegetation removal, grading, earth excavation and the construction of roads, sidewalks and buildings, it would alter existing drainage patterns and increase the potential for erosion and/or siltation. As previously discussed under Impact 4.10-1, implementation of standard erosion control measures (SWPPP) would be required to minimize the risk during construction. In addition, implementation of Mitigation Measures 4.10-1b and 4.10-1c would reduce potential erosion and siltation impacts associated with altering existing drainage patterns during the life of the project to a less than significant level.

Mitigation Measures:

The following mitigation measure applies to all sites:

Implement Mitigation Measures 4.10-1b and 4.10-1c.

Level of Significance After Mitigation: Less Than Significant Impact

On or Offsite Flooding Impacts from Drainage Alteration

4.10-4 THE PROPOSED PROJECT COULD SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, WHICH COULD SUBSTANTIALLY INCREASE THE RATE OR AMOUNT OF SURFACE RUNOFF IN A MANNER THAT WOULD RESULT IN FLOODING ON OR OFFSITE.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Future development of the proposed project sites would increase the amount of impervious surfaces through the construction of new building pads, streets, sidewalks and structures, which would result in changes to the absorption rates, drainage patterns and the corresponding rate and amount of surface runoff. Such changes could potentially result in on- or off-site flooding. BMPs outlined in Mitigation Measures 4.10-1b and 4.10-1d would help reduce the velocity of flows and encourage infiltration before runoff enters the stormwater drainage system.

These mitigation measures, and compliance with the General Permit and County and City policies and regulations, would reduce potential impacts on flooding from site alteration to less than significant.

Mitigation Measures:

The following mitigation measure applies to all sites:

Implement Mitigation Measures 4.10-1b and 4.10-1d.

Level of Significance After Mitigation: Less Than Significant Impact.

Storm Drainage System Capacity

4.10-5 THE PROPOSED PROJECT COULD CREATE OR CONTRIBUTE RUNOFF WATER THAT WOULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

As stated in the impact discussions above, the proposed project would result in changes to absorption rates, drainage patterns and the corresponding rate and amount of surface runoff within the project area. New development associated with the proposed project would require the construction of adequately sized storm drainage facilities that would connect to existing storm drainage systems.

Implementation of Mitigation Measure 4.10-1c would reduce potential impacts on drainage systems or polluted runoff by requiring project-specific hydrology reports to verify no net increase in stormwater runoff from the project area and water quality BMPs. Therefore, impacts would be less than significant.

Mitigation Measures:

The following mitigation measure applies to all sites:

Implement Mitigation Measure 4.10-1c.

Level of Significance After Mitigation: Less Than Significant Impact.

Flood Hazard

4.10-6 THE PROPOSED PROJECT COULD PLACE HOUSING WITHIN A 100-YEAR FLOOD HAZARD AREA, OR PLACE WITHIN A 100-YEAR FLOOD HAZARD AREA STRUCTURES WHICH COULD IMPEDE OR REDIRECT FLOOD FLOWS.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

Portions of Sites 10 and 13 in the Penn Valley Area were identified to be within the floodway and 100-year flood hazard area. None of the other sites were at risk of being within a 100-year flood hazard area where structures could impede or redirect flood flows.

The FIRM map panel that covers the Penn Valley proposed project sites (06057C0608E) shows portions of Sites 10 and 13 to be located in flood hazard zones. Specifically, portions of Sites 10 and 13 are located in the Squirrel Creek floodway, which will restrict development in the northeast portion of Site 10 and the southeast portion of Site 13. A portion of both sites are also located in a Special Flood Hazard Area (SFHA) that is subject to inundation by the 1-percent-annual-chance flood event (also known as the 100-year flood event) determined by detailed methods. Portions of Site 13 are also located within the 0.2-percent-annual-chance flood (also known as the 500 year flood event) zone. The flood hazard areas have been

mapped as Environmentally Sensitive Areas (ESAs) and development within the ESAs must be avoided.

As per Mitigation Measure 4.10-1a, if residential development were to occur in the ESA, mitigation would require a discretionary use permit for development within the floodplain and a ministerial management permit for development within the 100-foot floodplain setback. Implementation of Mitigation Measure 4.10-1a would reduce potential impacts on flood hazards to a less than significant level.

Mitigation Measure:

The following mitigation measure applies to Sites 10 and 13:

Implement Mitigation Measure 4.10-1a.

Level of Significance After Mitigation: Less Than Significant Impact.

Dam Failure Impacts

4.10-7 THE PROPOSED PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO A SIGNIFICANT RISK OF LOSS, INJURY OR DEATH INVOLVING FLOODING, INCLUDING AS A RESULT OF THE FAILURE OF A LEVEE OR DAM.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

As discussed under Section 4.10-6 above, Sites 10 and 13 are the only sites that are within the flood hazard zone. Implementation of Mitigation Measure 4.10-1a would reduce potential impacts to less than significant, since the measure would require the developer to avoid the ESAs when developing on the sites. Based on a review of topographic and flood maps, none of the project sites are located downstream of a dam or within a dam inundation area. The potential for risk, loss, injury, or death from installation of new structures within dam inundation areas is minimal within the proposed project sites. The project would not involve the construction of inhabited structures within a dam inundation area, nor would it change the structural integrity of any existing dams or levees. As such, the project has a less than significant impact as a result of dam failure.

Mitigation Measure:

The following mitigation measure applies to Sites 10 and 13:

Implement Mitigation Measure 4.10-1a

Level of Significance After Mitigation: Less Than Significant Impact

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4.11 NOISE

This section analyzes project-related noise source impacts to on- and off-site land uses. Mitigation measures are recommended to avoid or reduce the project's noise impacts. Information in this section was obtained from the Nevada County General Plan (General Plan), Nevada County General Plan Environmental Impact Report (General Plan EIR), and the Nevada County Land Use Development Code. For the purposes of mobile source noise modeling and contour distribution, traffic information contained in Appendix L (Traffic Data) was utilized. The noise modeling data can be found in Appendix I of this EIR.

4.11.1 ENVIRONMENTAL SETTING

ACOUSTICAL TERMINOLOGY

Noise Scales and Definitions

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by differentiating among frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound ten dBA higher than another is perceived to be twice as loud and 20 dBA higher is perceived to be four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud); refer to Figure 4.11-1, *Sound Levels and Human Response*.

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time
- The influence of periodic individual loud events
- The community response to changes in the community noise environment

Table 4.11-1, *Noise Descriptors*, provides a listing of methods to measure sound over a period of time.

**Table 4.11-1
Noise Descriptors**

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).

Table 4.11-1, continued

Term	Definition
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 PM to 10:00 PM, and +10 dBA for the night, 10:00 PM to 7:00 AM.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq} . The L_{dn} is calculated by averaging the L_{eq} 's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 PM to 7:00 AM), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
L_{01} , L_{10} , L_{50} , L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.

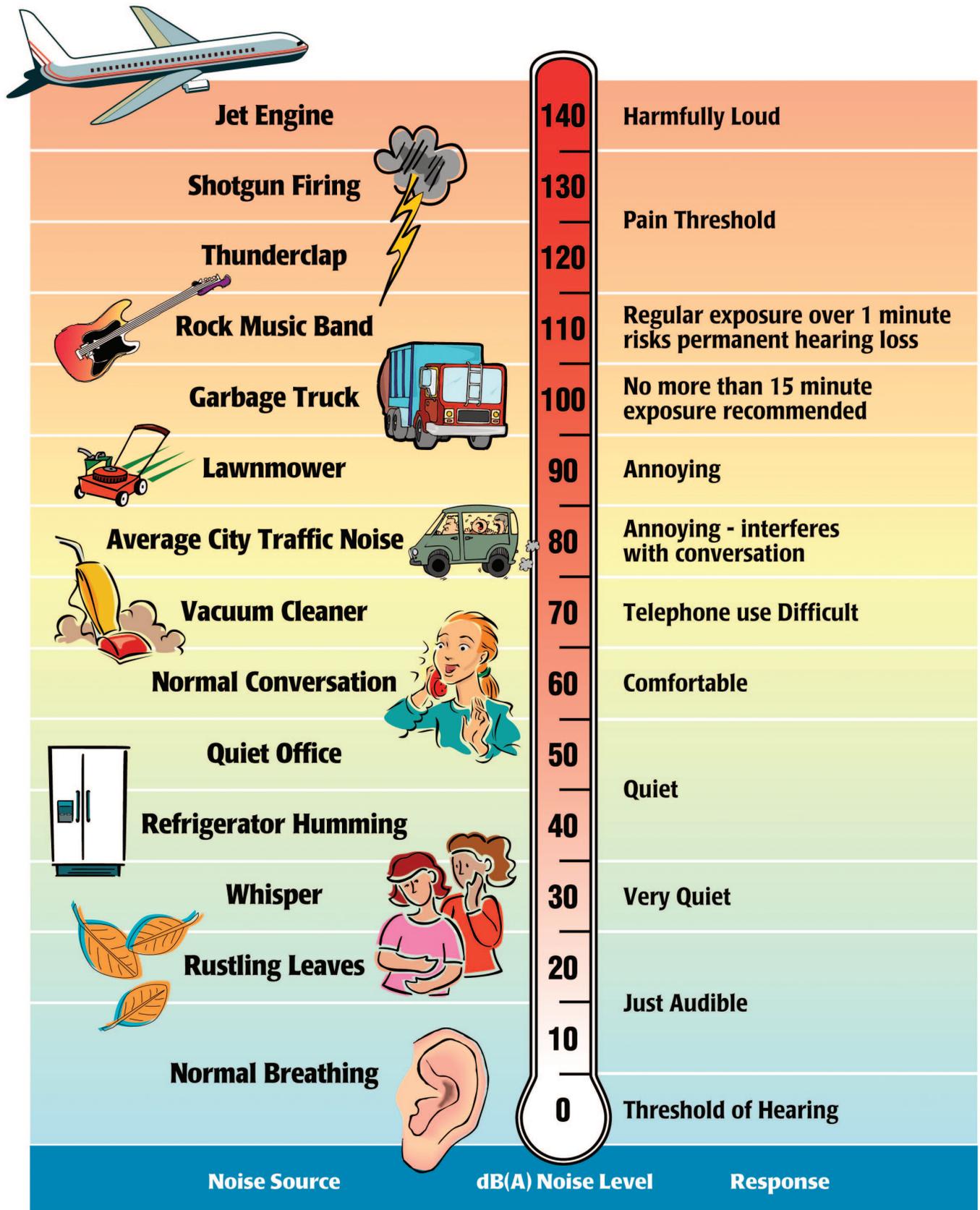
Source: Cyril M. Harris, *Handbook of Noise Control*, 1979

HEALTH EFFECTS OF NOISE

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. The percentage of people claiming to be annoyed by noise generally increases with the environmental sound level. However, many factors also influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses range from "not annoyed" to "highly annoyed."

When the noise level of an activity rises above 70 dBA, the chance of receiving a complaint is possible, and as the noise level rises, dissatisfaction among the public steadily increases. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- Noise-Induced Hearing Loss
- Interference with Communication
- Effects of Noise on Sleep
- Effects on Performance and Behavior
- Extra-Auditory Health Effects
- Annoyance



Source:

Melville C. Branch and R. Dale Beland, *Outdoor Noise in the Metropolitan Environment*, 1970.

Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004)*, March 1974.

ALBRIGHT WAY DEVELOPMENT PROJECT
ACOUSTICAL ASSESSMENT

Common Environmental Noise Levels

Figure 4.11-1

Although it often causes discomfort and sometimes pain, noise-induced hearing loss usually takes years to develop. Noise-induced hearing loss can impair the quality of life through a reduction in the ability to hear important sounds and to communicate with family and friends. Hearing loss is one of the most obvious and easily quantified effects of excessive exposure to noise. While the loss may be temporary at first, it could become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss directly caused by the environment is difficult to quantify. Although the major cause of noise-induced hearing loss is occupational, substantial damage can be caused by non-occupational sources.

According to the U.S. Public Health Service, nearly ten million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools, and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high and the task sufficiently complex for effects on performance to occur.

Recent research implicates that more moderate noise levels can produce disruptive after-effects, commonly manifested as a reduced tolerance for frustration, increased anxiety, decreased incidence of “helping” behavior and increased incidence of “hostile” behavior. Noise has been implicated in the development or exacerbation of a variety of health problems, ranging from hypertension to psychosis. As with other categories, quantifying these effects is difficult due to the amount of variables that need to be considered in each situation. As a biological stressor, noise can influence the entire physiological system. Most effects seem to be transitory, but with continued exposure some effects have been shown to be chronic in laboratory animals.

Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one’s peace of mind and the enjoyment of one’s environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels were consistently above 60 dBA community noise equivalent level (CNEL), approximately nine percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise

have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

GROUND-BORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity or acceleration. The peak particle velocity or the root mean square velocity is usually used to describe vibration amplitudes. The peak particle velocity is defined as the maximum instantaneous peak or vibration signal, while the root mean square velocity is defined as the square root of the average of the squared amplitude of the signal. The peak particle velocity is typically used for evaluating potential building damage, whereas the root mean square velocity is typically more suitable for evaluating human response. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of vibration. Man-made vibration issues are, therefore, usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment, such as vibratory compactors or rollers, pile drivers, and pavement breakers, can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions.

SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. The candidate sites are located within three general areas of unincorporated Nevada County including the Grass Valley Sphere of Influence, Penn Valley, and the Lake of the Pines Area. Nearby noise-sensitive land uses generally consist of residential uses, commercial uses, and open space.

MOBILE NOISE SOURCES

Roadway Noise

Roadway noise levels throughout the project area were projected using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108), together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (i.e., number of lanes), the roadway width, the average daily traffic (ADT), and the vehicle travel speed. The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadways and adjacent land uses. Vehicle speeds were assumed based on empirical observations and posted maximum speeds. Noise projections are based on vehicular traffic as derived from the traffic data contained within the project's Traffic Impact Assessment. Existing noise contours were calculated for the primary and major arterials in the vicinity of the project area; refer to Table 4.11-2, *Existing Roadway Traffic Noise Levels*. In addition, a number of secondary and commuter streets and collectors were modeled. Noise generation

for each roadway link was calculated, and the distance to the 60 dBA, 65 dBA, and 70 dBA contours was determined.

**Table 4.11-2
Existing Roadway Traffic Noise Levels**

Roadway Segment	Existing Conditions				
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Nevada City Highway					
Dorsey Drive to Brunswick Road	9,945	61.6	171	54	17
North of Brunswick Road	13,707	63.0	236	75	24
SR-20					
SB On-Ramp	19,620	64.6	338	107	34
Brunswick Road					
SR-20 to Sutton Way	21,618	64.8	372	118	37
Sutton Way to Old Tunnel Road	12,654	59.4	111	52	24
Old Tunnel Road to Idaho Maryland Road	10,107	58.4	96	44	21
South of Idaho Maryland Road	12,240	59.2	109	50	23
Sutton Way					
North of Brunswick Road	6,561	59.7	113	36	11
South of Brunswick Road	12,249	62.4	211	67	21
Idaho Maryland Road					
West of Brunswick Road	3,465	54.1	47	22	10
East of Brunswick Road	1,737	51.1	30	14	6
McCourtney Road					
South of Personeni Road	6,003	56.5	68	31	15
McKnight Way					
East of SR-49	11,196	62.0	193	61	19
SR-49 SB Ramps to SR-49 NB Ramps	12,159	62.3	209	66	21
SR-49 Ramps to Auburn Street	10,980	61.9	189	60	19
Auburn Street					
North of McKnight Way	5,436	55.9	63	29	14
La Barr Meadows Road					
South of McKnight Way	8,442	57.8	85	39	18
SR-20					
West of Pleasant Valley Road	7,641	62.3	164	76	35
Pleasant Valley Road to Rough and Ready Hwy	11,160	63.9	212	98	46
East of Rough and Ready Highway	13,140	64.6	236	110	51
Pleasant Valley Road					
North of SR-20	9,495	61.0	136	63	29
Penn Valley Drive					
Pleasant Valley Road to Horton Street	7,290	59.9	114	53	25

Table 4.11-2, continued

Roadway Segment	Existing Conditions				
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Horton Street to Broken Oak Court	2,790	55.7	60	28	13
Broken Oak Court to Spenceville Road	3,519	56.7	70	33	15
Rough and Ready Highway					
North of SR-20	2,853	55.9	61	28	13
South of SR-20	5,463	58.7	94	43	20
Spenceville Road					
South of Penn Valley Drive	3,843	56.2	62	29	13
SR-49					
Cameo Drive to Combie Road	19,600	66.2	308	143	66
Combie Road to Woodridge Drive	25,672	67.4	369	171	79
Combie Road					
West of SR-49	4,750	55.5	58	27	12
East of SR-49	14,370	60.3	121	56	26
West of Rosewood Drive	13,680	60.1	117	54	25
Rosewood Drive to Hacienda Drive	13,310	59.9	115	53	25
South of Magnolia Road	5,510	56.1	64	30	14
Magnolia Road					
East of Hacienda Drive	11,465	59.3	104	48	22
Hacienda Drive					
North of Combie Road	2,600	53.0	39	18	8

Source: Traffic noise modeling is based on traffic data provided by RBF Consulting, January 2013.

AIRCRAFT NOISE

The Nevada County Airport is located approximately one mile to the southeast of the candidate sites within the Grass Valley Sphere of Influence, which contributes to the noise environment. The candidate sites are located outside of the 65 dBA CNEL noise contour boundaries.¹

STATIONARY NOISE SOURCES

The project area consists of a mix of open grassland, water features, and forested land. The primary sources of stationary noise in the project vicinity are the few commercial and industrial activities in the vicinity of each of the candidate sites. The noise associated with these sources may represent a single-event noise occurrence, short-term or long-term/continuous noise.

Commercial and industrial land uses located near residential areas currently generate occasional noise impacts. The primary noise sources associated with these facilities are caused by delivery trucks, heavy machinery, air compressors, generators, outdoor loudspeakers, and gas venting. Other significant stationary noise sources in the area include noise from construction activities, street sweepers, and gas-powered leaf blowers.

¹ Nevada County Airport Land Use Commission, *Nevada County Airport Land Use Compatibility Plan*, July 2011.

Commercial

Commercial development covers a broad spectrum of uses including retail, office, and service commercial. Commercial uses are generally located to the west of the Grass Valley area sites, to the north of the Penn Valley area sites, and to the west of the Lake of the Pines area sites. A variety of stationary noise sources associated with commercial activities exists within the vicinity of the project area. Commercial noise sources may include mechanical equipment and power tools. These noise sources have the potential to temporarily disrupt the quietness of an area.

Industrial

Industrial development is located to the north of the Penn Valley area sites. These industrial uses include light industrial welding. Industrial businesses can have a varying degree of impact on adjacent uses. Industrial operations often involve use of generators, motors, pumps, fans, mechanical equipment, and vehicles that contribute to noise levels at industrial sites, particularly for outdoor activities.

4.11.2 REGULATORY SETTING

It is difficult to specify noise levels that are generally acceptable to everyone. What is annoying to one person may be unnoticed by another. Standards may be based on documented complaint activity in response to documented noise levels, or based on studies on the ability of people to sleep, talk, or work under various noise conditions. However, such studies recognize that individual responses vary considerably. Standards usually address the needs of most of the general population.

This section describes the laws, ordinances, regulations, and standards that are applicable to the proposed project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, federal and state agencies provide standards and guidelines for local jurisdictions.

STATE FRAMEWORK

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of “normally acceptable,” “conditionally acceptable,” and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial and professional uses.

LOCAL FRAMEWORK

Local agencies may regulate noise levels of most sources not regulated by the federal government; provide standards for insulation of noise receivers, either within the structure

or by placement of noise barriers such as walls; and, through land use decisions, reduce noise impacts by separating noise generators from noise sensitive uses.

Nevada County General Plan and Noise Ordinance

The Noise Element of the Nevada County General Plan (1996) establishes maximum allowable exterior noise levels for various land use categories in terms of the average-hourly (L_{eq}) and maximum intermittent (L_{max}) noise descriptors. Maximum allowable noise standards are identified for daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM) periods. The County’s noise standards, which are typically applied to non-transportation noise sources, are summarized in Table 4.11-3, *County of Nevada Exterior Noise Limits*. These noise standards are also identified in the Nevada County Land Use Development Code, Chapter II, Zoning Regulations (Section L-II, 4.1.7, Noise). Construction activities are exempt from the County’s noise standards.

**Table 4.11-3
 County of Nevada Exterior Noise Limits**

Land Use Category	Zoning District	Time Period	Noise Level	
			L_{eq}	L_{max}
Rural	AG, TPZ, AE, OS, FR, IDR	7 am - 7 pm	55	75
		7 pm - 10 pm	50	65
		10 pm - 7 am	40	55
Residential and Public	RA, R1, R2, R3, P	7 am - 7 pm	55	75
		7 pm - 10 pm	50	65
		10 pm - 7 am	45	60
Commercial and Recreation	C1, C2, C3, CH, CS, OP, REC	7 am - 7 pm	70	90
		7 pm - 7 am	65	75
Business Park	BP	7 am - 7 pm	65	85
		7 pm - 7 am	60	70
Industrial	M1, M2	Any time	80	90

Notes:

- Compliance with the above standards shall be determined by measuring the noise level based on the mean average of not less than three (3) 20-minute measurements for any given time period. Additional noise measurements may be necessary to ensure that the ambient noise level is adequately determined.
- Where two different zoning districts abut, the standard applicable to the lower or more restrictive district plus 5 dBA shall apply.
- The above standards shall be measured only on property containing a noise-sensitive land use as defined in General Plan Policy 9.8 and may be measured anywhere on the property containing said land use.
- If the measured ambient level exceeds that permitted, the allowable noise exposure standard shall be set at 5 dBA above the ambient.
- Because of the unique nature of sound, the County reserves the right to provide for a more restrictive standard than shown in the Exterior Noise Limits table contained in this policy. The maximum adjustment shall be limited to be not less than the current ambient noise levels and shall not exceed the standards of this policy or as they may be further adjusted by General Plan Policy 9.1b. Imposition of a noise level adjustment shall only be considered if one or more of the following conditions are found to exist:
 - a. Unique characteristics of the noise source:
 - The noise contains a very high or low frequency, is of a pure tone (a steady, audible tone such as a whine, screech, or hum), or contains a wide divergence in frequency spectra between the noise source and ambient level.
 - The noise is impulsive in nature (such as hammering, riveting, or explosions), or contains music or speech.
 - The noise source is of a long duration.
 - b. Unique characteristics of the noise receptor when the ambient noise level is determined to be 5 dBA or more below the Policy 9.1 standard for those projects requiring a General Plan amendment, rezoning, and/or conditional use permit. In such instances, the new standard shall not exceed 10 dBA above the ambient or General Plan Policy 9.1 standard, whichever is more restrictive.

The above standards shall not apply to those activities associated with the actual construction of a project or to

Table 4.11-3, continued

those projects associated with the provision of emergency services or functions.

Source: Nevada County, *Nevada County Land Use Development Code, Chapter II, Zoning Regulations*, 2010.

For transportation noise sources, the County uses the average-daily noise descriptor (i.e., CNEL or L_{dn}) for determination of land use compatibility. The County's General Plan Noise Element identifies noise criteria to be used for determination of land use compatibility within exterior noise environments, as summarized in Table 4.11-4, *Nevada County Land Use Compatibility Noise Guidelines*.

Table 4.11-4
Nevada County Land Use Compatibility Noise Guidelines

Land Use Category	(L _{dn} , or CNEL, dBA)				
	Clearly Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density, Single-Family, Duplex, Mobile Homes	45 – 55	55 – 60	55 – 65	60 – 70	70 – 80
Residential - Multiple Family	45 – 55	55 – 60	60 – 70	65 – 70	70 – 80
Transient Lodging - Motel, Hotels	45 – 55	55 – 60	60 – 70	65 – 75	75 – 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	45 – 55	55 – 60	55 – 65	65 – 70	70 – 80
Auditoriums, Concert Halls, Amphitheaters	45 – 50	50 – 55	50 – 65	60 – 75	75 – 80
Sports Arenas, Outdoor Spectator Sports	45 – 55	55 – 65	55 – 75	65 – 80	75 – 80
Playgrounds, Neighborhood Parks	45 – 55	55 – 65	60 – 70	70 – 80	75 – 80
Golf Courses, Riding Stables, Water Recreation, Cemeteries	45 – 60	60 – 70	65 – 75	70 – 80	NA
Office Buildings, Business Commercial and Professional	45 – 60	55 – 65	60 – 75	70 – 80	NA
Industrial, Manufacturing, Utilities, Agriculture	45 – 65	60 – 75	70 – 80	75 – 80	NA

NA: Not Applicable

Notes:

Clearly Acceptable – The activities associated with the specified land use may be carried out with essentially no interference from the noise exposure.

Normally Acceptable – Noise should be considered in proposed land use projects, but under most circumstances conventional construction without any special noise insulation requirements is satisfactory.

Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable - New Construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable – New construction or development should generally not be undertaken.

Source: Nevada County, *Nevada County General Plan*, 1996.

In addition to the identification of noise standards, the County's General Plan also identifies goals, objectives, and policies to reduce noise-related impacts and land use compatibility conflicts. Applicable goals and policies relative to the proposed project within the noise element are listed below:

- Goal 9.1: Provide for the health, safety, and welfare of the people of Nevada County through a set of policies designed to encourage an environment free of unnecessary and annoying noise.
- Objective 9.1: Determine the existing noise environment and continue to reassess this environment so that a realistic set of noise standards can be developed reflecting the varying nature of different land uses.
- Policy 9.1: The following noise standards, as performance standards and land use compatibility standards, shall apply to all discretionary and ministerial projects excluding permitted residential (including tentative maps) land uses [refer to Table 4.11-4 for the noise standards].
- Objective 9.2: Encourage public awareness of noise and its hazards and means to minimize its existing and future impacts.
- Policy 9.5: Encourage heavy truck traffic to those routes outside residential areas.
- Policy 9.6: Encourage cities within Nevada County to adopt noise control programs compatible with County efforts.
- Policy 9.7: Strongly discourage those General Plan amendments and zone changes that would likely create land use conflicts relative to noise.
- Policy 9.8: Strongly encourage future noise sensitive land uses, including residences, schools, hospitals, nursing homes, churches, and libraries, to those locations of the County where the impact of noise generators is limited so that compliance with standards found in Policy 9.1 will be maintained. This policy shall apply to the approval of all tentative maps for residentially zoned parcels. As an additional guide in evaluating land use compatibility, those standards as found in (General Plan) Figure 1 shall be used.
- Policy 9.9: Limit future noise generating land use to those locations of the County where their impacts on noise sensitive land uses will be minimized, consistent with the standards found in Policy 9.1.
- Policy 9.10: Require the preparation of a comprehensive noise study for all land use projects determined to have a potential to create noise levels inconsistent with those standards found in Policy 9.1, and in accordance with the methodology identified in the Noise Element Manual contained in General Plan Volume 2, Section 3 - Noise Analysis Appendix A.
- Policy 9.11: Provide for adequate design controls to assist in mitigating on-site the significant adverse impacts of future noise generating

- land uses through increased setbacks, landscaping, earthen berms, and solid fencing.
- Policy 9.12: Strictly enforce the noise insulation standards for new construction as required by Title 24 of the California Administrative Code.
- Policy 9.13: Minimize the noise impact from automobiles, trucks, motorcycles, and off-road vehicles by continuing to request enforcement of those sections of the California Vehicle Code relative to vehicle exhaust system maintenance by the County Sheriff and State Highway Patrol.
- Policy 9.14: Where realistically possible, encourage noise sensitive land uses away from railroad operations.
- Policy 9.15: The routing and design of new or expanded transportation facilities by the County shall incorporate feasible measures necessary to mitigate increases in noise levels.
- Policy 9.16: Encourage the minimization of noise emission from all County-controlled activities consistent with Policy 9.1 standards.

City of Grass Valley 2020 General Plan

One of areas where the candidate sites are located includes the Grass Valley Sphere of Influence. The Noise Element of the 2020 General Plan describes the noise environment of the City, identifies major noise sources, and establishes exterior and interior noise limits from transportation sources for various land use categories; refer to Table 4.11-5, *Maximum Allowable Noise Exposure from Transportation Sources*. The Noise Element also establishes noise level performance standards for fixed noise sources. The hourly equivalent sound level (L_{eq}) standard is 55 dBA between 7:00 AM and 10:00 PM (daytime), and 50 dBA between 10:00 PM and 7:00 AM (nighttime). The maximum noise levels allowed by a fixed noise source are 75 dBA during the daytime hours and 65 dBA during the nighttime hours.

**Table 4.11-5
 Maximum Allowable Noise Exposure from Transportation Sources**

Land Use	L _{dn} /CNEL at Outdoor Activity Areas	Interior Spaces	
		L _{dn} /CNEL	L _{eq}
Residential	60 dBA	45 dBA	--
Transient Lodging	60 dBA	45 dBA	--
Hospitals, Nursing Homes	60 dBA	45 dBA	--
Theaters, Auditoriums, Music Halls	--	--	35 dBA
Churches, Meeting Halls	60 dBA	--	40 dBA
Office Buildings	--	--	45 dBA
Schools, Libraries, Museums	--	--	45 dBA
Playgrounds, Neighborhood Parks	70 dBA	--	--

1 - As determined for a typical worst-case hour during periods of use.

2 - Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

3 - In the case of hotel/motel facilities or other transient lodging, there may be no designated outdoor activity areas (e.g., pool areas). In such cases, only the interior noise level criterion will apply.

Source: City of Grass Valley, *City of Grass Valley 2020 General Plan Noise Element*, 1999

The Noise Element identifies the following goals, objectives, and policies related to noise:

- Goal 1-NG: Protect Grass Valley’s relatively quiet environment from unnecessary, annoying and potentially damaging noise.
- Objective 1-NO: Coordination of transportation and land use planning to assure acceptable noise levels.
- Objective 2-NO: Determination of the existing noise environment and development of realistic noise standards for different land uses.
- Objective 3-NO: Establishment of a pattern of land uses that minimizes exposure of community residents to excessive noise.
- Policy 1-NP: Develop a policy framework to function as a guide to planning for appropriate land uses in relation to hazardous and annoying noise.
- Policy 2-NP: Perform adequate acoustical analyses prior to approval of new development projects or transportation facilities, if warranted.
- Policy 3-NP: Utilize noise contour data to determine land uses affected by transportation-related noise sources.
- Policy 4-NP: Adopt appropriate noise level standards for existing and future residential areas.
- Policy 5-NP: Utilize noise contour data to determine appropriate land use patterns in areas affected by stationary noise sources.

Policy 6-NP: Locate sensitive land uses (residential neighborhoods, medical facilities, senior care facilities and schools) away from high noise areas.

City of Grass Valley Municipal Code

Chapter 8 (Noise) of the Municipal Code sets forth the noise regulations for the City. Section 8.28.060 establishes the ambient noise level standards for uses within the City. Within a residential zone, or within a radius of 500 feet of a residential zone, construction activities are permitted only between 7:00 AM and 7:00 PM. Construction is not allowed on Sundays or legal holidays.

4.11.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant noise impact if it would:

- Exposure of persons to, or the generation of, noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels (e.g., blasting)
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels

POTENTIAL IMPACTS AND MITIGATION MEASURES

Short-Term (Construction) Noise

4.11-1 CONSTRUCTION-RELATED ACTIVITIES RESULTING FROM THE PROPOSED PROJECT COULD GENERATE NOISE LEVELS IN EXCESS OF ESTABLISHED STANDARDS.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Construction activities have a short and temporary duration, lasting from a few days to a period of several months. Ground-borne noise and vibration, as well as other types of construction-related noise impacts may occur during the initial site preparation, which can create the highest levels of noise and vibration. Generally, site preparation has the shortest

duration of all construction phases. Activities that occur during this phase include earth-moving and soils compaction. High ground-borne noise levels can occur during this phase by the operation of heavy-duty construction equipment. Construction activities have the potential to expose adjacent sensitive land uses (nearby residential, institutional, and park uses) to noise levels between 70 and 90 decibels at 50 feet from the noise source. The degree of noise impact would be dependent upon the distance between the construction activity and the noise sensitive receptor.

While implementation of Nevada County Housing Element Rezone Program would not directly result in new development within the County, it would facilitate additional development, which would generate noise during construction activities. New development potential within the County would occur within the candidate area sites. It is unlikely the County would experience intensive construction activity with implementation of Housing Element Rezone Program. Construction noise levels have not been modeled at this program level of analysis, as the extent and timing of future construction activities within the County are unknown at this time.

Goals, objectives, and policies in the Nevada County General Plan include actions to limit exposure of noise-sensitive land uses to excessive noise levels from point sources such as construction activities. The County would also require each project to implement strategies and mitigation measures requiring applicants to implement construction best management practices (BMPs) to reduce construction noise levels that address construction-related noise (Mitigation Measures 4.11-1a and 4.11-1b) in order to minimize impacts to surrounding sensitive receptors. Through the environmental review process for individual projects, additional mitigation may also be required to further reduce construction-related noise impacts to a less than significant level.

Compliance and/or adherence to the County's Noise Ordinance, goals, objectives, and policies in the General Plan, and recommended Mitigation Measures 4.11-1a and 4.11-1b, would reduce short-term construction noise impacts to less than significant levels.

Mitigation Measures:

The following mitigation measures apply to all sites:

- 4.11-1a Project developers shall ensure through contract specifications that construction best management practices (BMPs) be implemented by contractors to reduce construction noise levels. Contract specifications shall be included in construction documents, which shall be reviewed by the County of City prior to issuance of a grading or building permit (whichever is issued first) or as part of the annexation request for Sites 1-9. The construction BMPs shall include the following:
- Ensure that construction equipment is properly muffled according to industry standards and is in good working condition.
 - Place noise-generating construction equipment and locate construction staging areas away from sensitive uses, where feasible.
 - Implement noise attenuation measures to the extent feasible, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources.
 - Use electric air compressors and similar power tools rather than diesel equipment, where feasible.

- Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes.
- Construction shall be limited to the hours of 7:00 AM to 7:00 PM Monday through Saturday. No construction is permitted on Sundays or legal holidays.
- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the County or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party.

4.11-1b Project developers shall require by contract specifications that heavily loaded trucks used during construction would be routed away from residential streets to the extent feasible. Contract specifications shall be included in construction documents, which shall be reviewed by the County prior to issuance of a grading permit.

Level of Significance After Mitigation: Less Than Significant Impact

Short-Term (Construction) Ground-borne Vibration

4.11-2 CONSTRUCTION-RELATED ACTIVITIES RESULTING FROM THE PROPOSED PROJECT COULD GENERATE OR EXPOSE PERSONS OR STRUCTURES TO EXCESSIVE GROUND-BORNE VIBRATION.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Project construction can generate varying degrees of ground-borne vibration, depending on the construction procedure and equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Ground-borne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative even for sustained pile driving. Pile driving levels often exceed 0.2 inch/second at distances of 50 feet, and 0.5 inch/second at 25 feet without any apparent damage to buildings.

Construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any

cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The typical vibration produced by construction equipment is illustrated in Table 4.11-6, *Typical Vibration Levels for Construction Equipment*.

**Table 4.11-6
 Typical Vibration Levels for Construction Equipment**

Equipment	Reference peak particle velocity at 25 feet (inches/second) ¹	Approximate peak particle velocity at 50 feet (inches/second) ²
Large bulldozer	0.089	0.031
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001
Jackhammer	0.035	0.012
Vibratory compactor/roller	0.210	0.074

Notes:

1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006. Table 12-2.
2. Calculated using the following formula:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
 PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
 D = the distance from the equipment to the receiver

As indicated in Table 4.11-6, based on the FTA data, vibration velocities from typical heavy construction equipment that would be used during project construction range from 0.003 to 0.210 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. With regard to the proposed project, ground-borne vibration would be generated during site clearing and grading activities onsite and by off-site haul-truck travel facilitated by implementation of the project.

The nearest sensitive land uses (residential uses) are located approximately 50 feet to the north, south, and east of the candidate sites in Penn Valley (Sites 10 through 13). The closest sensitive receptors to the Grass Valley sites range from 200 to 500 feet away, and the closest sensitive receptors to the Lake of the Pines candidate sites are located 70 to 300 feet away. As demonstrated in Table 4.11-6, the anticipated vibration levels would not exceed the 0.2 inch-per-second PPV significance threshold during construction operations at the nearest receptors. It should be noted that 0.2 inch-per-second PPV is a conservative threshold, as that is the construction vibration damage criteria for non-engineered timber and masonry buildings.² Buildings within the project area would be better represented by the 0.5 inch-per-second PPV significance threshold (construction vibration damage criteria for a reinforced concrete, steel, or timber buildings).³ Therefore, vibration impacts associated with construction are anticipated to be less than significant. Additionally, implementation of Mitigation Measure 4.11-1a would also reduce construction vibration impacts to nearby receptors.

Implementation of Mitigation Measure 4.11-2, requiring a project-specific vibration analysis for construction activities within 25 feet of an occupied structure, and adherence to County and state standards would reduce impacts to a less than significant level.

² Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006. Table 12-3.
³ Ibid.

Mitigation Measure:

The following mitigation measure applies to all sites.

- 4.11-2 Future projects shall require by contract specifications that construction staging areas along with the operation of earth-moving equipment would be located as far away from vibration and noise sensitive sites as feasible. Should construction or grading activities take place within 25 feet of an occupied structure, a project-specific vibration impact analysis shall be conducted, with appropriate recommendations to ensure vibration levels are below the 0.2 inch-per-second PPV significance threshold at sensitive uses. Contract specifications incorporating this measure shall be included in the proposed project construction documents, which shall be reviewed by the County prior to issuance of a grading permit or by the City as part of the annexation request for Sites 1-9.

Level of Significance After Mitigation: Less Than Significant Impact

Long-Term (Operational) Noise

4.11-3 FUTURE NOISE LEVELS ASSOCIATED WITH THE PROPOSED PROJECT COULD CONTRIBUTE TO AN EXCEEDANCE OF THE COUNTY'S NOISE STANDARDS RESULTING IN POTENTIAL NOISE IMPACTS TO SENSITIVE RECEPTORS.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis*Mobile Noise Sources*

An off-site traffic (mobile) noise impact typically occurs when there is a discernible increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB will not be discernible to local residents. A 5 dB change is generally recognized as a clearly discernible difference. Thus, the project would result in a significant noise impact when a permanent increase in ambient noise levels of 3 dB occurs upon project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

Table 4.11-7, *Future Noise Scenarios*, presents the noise level (dBA at 100 feet from centerline) that would typically be heard 100 feet perpendicular to the roadway centerline. As indicated in Table 4.11-7, under the "Future Without Project" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 55.3 dBA to 68.8 dBA. The highest noise level under "Future Without Project" conditions would occur along SR 49, between Combie Road and Woodridge Drive. Under the "Future With Project" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 55.3 dBA to 68.9 dBA. The highest noise level under Future With Project conditions would occur along SR 49, between Combie Road and Woodridge Drive and south of Woodridge Drive.

As depicted in Table 4.11-7, the greatest noise level increase would be 1.2 dBA and would occur along Penn Valley Drive between Broken Oak Court and Spenceville Road. None of the roadway segments would experience a 3 dB increase or more between the No Project and

Plus Project conditions. Thus, implementation of the proposed project would not result in a significant increase in traffic noise levels.

Aircraft Noise

The Nevada County Airport is located approximately one mile to the southeast of the candidate sites within the Grass Valley Sphere of Influence, which contributes to the noise environment. The candidate sites are located outside of the 65 dBA CNEL noise contour boundaries as well as the 60 dBA CNEL and 55 dBA CNEL noise contours.⁴ Therefore, the candidate sites, including those located within the Grass Valley Sphere of Influence would not be exposed to excessive noise levels. Impacts would be less than significant in this regard.

Stationary Sources

The Housing Element Rezone Implementation Program anticipates the net development of 2,680 housing units. Future development of these residential units as a result of the Housing Element Rezone Implementation Program would create stationary noise typical of any new residential development. Noise that is typical of residential areas includes children playing, pets, amplified music, pool and spa equipment operation, mechanical equipment, woodworking, car repair, and home repair. Noise from residential stationary sources would primarily occur during the “daytime” activity hours and typically do not substantially increase ambient noise conditions. Further, future residential uses would be required to adhere to Nevada County Land Use Development Code, Chapter II, Zoning Regulations (Section L-II, 4.1.7, Noise), which ensures that future development minimizes unnecessary and annoying noise by establishing maximum noise levels and standards. Stationary noise sources as a result of the Housing Element Rezone Implementation Program are anticipated to result in less than significant impacts.

Mitigation Measures: No mitigation is required.

Level of Significance After Mitigation: Less Than Significant Impact.

⁴ Nevada County Airport Land Use Commission, *Nevada County Airport Land Use Compatibility Plan*, July 2011.

**Table 4.11-7
Future Noise Scenarios**

Roadway Segment	Future Without Project					Future With Project					Difference In dBA @ 100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Nevada City Highway											
Dorsey Drive to Brunswick Road	11,241	62.1	194	61	19	11,304	62.2	195	62	19	0.1
North of Brunswick Road	20,475	64.8	353	112	35	20,682	64.8	357	113	36	0
SR-20											
SB On-Ramp	29,232	66.3	504	159	50	30,438	66.5	525	116	52	0.2
Brunswick Road											
SR-20 to Sutton Way	31,914	66.5	551	174	55	33,183	66.7	572	181	57	0.2
Sutton Way to Old Tunnel Road	21,636	61.7	159	74	34	23,256	62.0	167	77	36	0.3
Old Tunnel Road to Idaho Maryland Road	17,973	60.9	140	65	30	18,729	61.1	144	67	31	0.2
South of Idaho Maryland Road	19,296	61.2	147	68	32	19,746	61.3	150	69	32	0.1
Sutton Way											
North of Brunswick Road	7,857	60.4	136	43	14	8,001	60.5	138	44	14	0.1
South of Brunswick Road	15,084	63.3	260	82	26	16,092	63.6	277	88	28	0.3
Idaho Maryland Road											
West of Brunswick Road	4,653	55.3	57	26	12	4,653	55.3	57	26	12	0
East of Brunswick Road	6,102	56.5	68	32	15	6,408	56.7	71	33	15	0.1
McCourtney Road											
South of Personeni Road	9,333	58.4	91	42	20	9,522	58.5	92	43	20	0.1

Table 4.11-7, continued

Roadway Segment	Future Without Project					Future With Project					Difference In dBA @ 100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
McKnight Way											
East of SR-49	15,471	63.4	267	84	27	15,597	63.4	269	85	27	0
SR-49 SB Ramps to SR-49 NB Ramps	16,668	63.7	287	91	29	17,073	63.8	295	93	29	0.1
SR-49 Ramps to Auburn Street	18,504	64.2	319	101	32	19,125	64.3	330	104	33	0.1
Auburn Street											
North of McKnight Way	9,000	58.1	89	41	19	9,198	58.2	90	42	19	0.1
La Barr Meadows Road											
South of McKnight Way	18,090	61.1	141	65	30	18,747	61.2	143	66	31	0.1
SR-20											
West of Pleasant Valley Road	8,289	62.6	174	81	37	8,649	62.8	179	83	38	0.2
Pleasant Valley Rd. to Rough and Ready Hwy	12,078	64.3	223	104	48	12,474	64.4	228	106	49	0.1
East of Rough and Ready Highway	14,634	65.1	254	118	55	16,110	65.5	270	125	58	0.4
Pleasant Valley Road											
North of SR-20	10,404	61.4	144	67	31	10,926	61.6	149	69	32	0.2
Penn Valley Drive											
Pleasant Valley Road to Horton Street	10,350	61.4	144	67	31	11,088	61.7	151	70	32	0.3
Horton Street to Broken Oak Court	3,024	56.1	63	29	14	3,636	56.9	72	33	15	0.8
Broken Oak Court to Spenceville Road	4,275	57.6	80	37	17	5,688	58.8	97	45	21	1.2
Rough and Ready Highway											
North of SR-20	3,717	57.1	73	34	16	4,131	57.5	78	36	17	0.4
South of SR-20	6,300	59.4	104	48	22	7,596	60.2	117	54	25	0.8

Table 4.11-7, continued

Roadway Segment	Future Without Project					Future With Project					Difference In dBA @ 100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Spenceville Road											
South of Penn Valley Drive	4,473	56.8	68	32	15	4,590	56.9	69	32	15	0.1
SR-49											
Cameo Drive to Combie Road	30,290	68.1	412	191	89	31,010	68.2	419	194	90	0.1
Combie Road to Woodridge Drive	35,180	68.8	455	211	98	36,470	68.9	466	216	100	0.1
Combie Road											
West of SR-49	7,330	57.3	77	36	17	7,510	57.4	78	36	17	0.1
East of SR-49	21,000	61.9	156	72	34	22,500	62.2	163	76	35	0.3
West of Rosewood Drive	19,900	61.7	150	70	32	20,410	61.8	153	71	33	0
Rosewood Drive to Hacienda Drive	18,140	61.3	141	66	30	20,170	61.7	152	70	33	0.4
South of Magnolia Road	7,210	57.3	76	35	16	7,730	57.6	80	37	17	0.3
Magnolia Road											
East of Hacienda Drive	11,889	59.4	107	49	23	12,051	59.5	108	50	23	0.1
Hacienda Drive											
North of Combie Road	3,190	53.9	44	21	10	3,260	53.9	45	21	10	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Traffic noise modeling is based on traffic data provided by RBF Consulting, January 2013.

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4.12 POPULATION AND HOUSING

This section describes the existing population and housing conditions in the County of Nevada (County) and the City of Grass Valley (City) and evaluates potential impacts that could result from future development within the three general areas of unincorporated Nevada County: Grass Valley Sphere of Influence; Penn Valley; and, Lake of the Pines. This section contains analysis based on information from the Nevada County General Plan, adopted in 1996, and subsequently amended Circulation and Housing Elements (2010), and for the areas of the proposed project within the City of Grass Valley Sphere of Influence, which will eventually be annexed into the City of Grass Valley, the City of Grass Valley 2020 General Plan and the City of Grass Valley 2009-2014 Housing Element. Other resources, references and documents used are identified, both in the text and corresponding footnotes.

4.12.1 ENVIRONMENTAL SETTING

POPULATION

County of Nevada

As noted in the County of Nevada's Housing Element 2009-2014, in January 2008 the California Department of Finance (DOF) estimated that the County's population was 99,186 persons. Between 2000 and 2008, the population of the County increased by 7 percent or 7,183 persons, which was less than two percent per year. In January 2012, the DOF estimated the population of the County Nevada to be 97,182, which is a decrease in population from 2008 of 2,004 persons.

Population projections included in the Nevada County 1996 General Plan and subsequent 2010 Housing Element amendment show that by 2020 the County will grow to 114,451 persons within the County's General Plan Planning Area, about an 18 percent increase. The Nevada County General Plan and Housing Element Planning Area includes the existing unincorporated areas and three cities – Grass Valley, Nevada City and Truckee.

The County's population is comprised of several different ethnic groups. According to the 2000 Census, 88 percent of the County's population identified themselves as white, not of Hispanic origin. The second largest ethnic group was Hispanic with six percent of the County's population. In 2000, the median age of residents in the County was 43 years. The County's median income in 2000 was \$45,864. According to DOF, in January 2012 there were 2.30 persons per household in the County.

City of Grass Valley

As noted in the City of Grass Valley 2009-2014 Housing Element, in January 2009 the California Department of Finance (DOF) estimated that the City's population was 12,817 persons. This estimate represents a slight decrease in population since 2007 of 103 persons. Between 2000 and 2009, the population of the City increased by 17 percent or 1,895 persons, which was less than two percent per year. By comparison, the City's population increased by 21 percent between 1990 and 2000, or two percent per year. In 2011, the United States Census Bureau estimated the population of Grass Valley to be 12,840 persons, which is a slight increase from 2009 estimates.

Population projections included in the 2020 General Plan show that by 2020 the City will grow to 23,395 persons within Grass Valley’s General Plan Planning Area, about double the current population and double the rate of population growth between 1990 and 2009. The City of Grass Valley’s 2020 General Plan Planning Area (planning area) includes the existing incorporated City, City Sphere of Influence, and areas likely to be annexed into the City. The 5,078 people included within the planning area, but not in the City’s 2000 population, currently live outside the City limits but within the City’s Sphere of Influence.

The City’s population is comprised of several different ethnic groups. According to the 2000 Census, 88 percent of the City’s population identified themselves as white, not of Hispanic origin. The second largest ethnic group was Hispanic with six percent of the City’s population. In 2000, the median age of residents in the City was 39.3. The City’s median income in 2000 was \$28,182, significantly lower than incomes in other cities in Nevada County (Nevada City, Truckee and unincorporated communities). Grass Valley’s median income was nearly \$8,500 less than the median income of Nevada City and over \$17,500 less than the median incomes of both Nevada County and Truckee. The City has concluded that the lower incomes of its residents are due to several factors, including a higher percentage of renter households, a high proportion of government-assisted rental units, and a high proportion of jobs that pay low to moderate wages. According to DOF, in January 2012, there were 2.00 persons per household in the City.

HOUSING

County of Nevada

A household is defined by the U.S. Census Bureau as all persons who occupy a housing unit, including families, single people, or unrelated persons. Based on the most current DOF estimates, there were 52,766 households in the County in May 2012. Table 4.12-1, *Housing Stock in the City of Grass Valley (2012)*, summarizes the City’s housing stock.

**Table 4.12-1
 Housing Stock in the County of Nevada (2012)**

Unit Type	Single-Family Detached Residential Units	Single-Family Attached Residential Units	Multi-Family Residential Units	Mobile Homes
Number of Units	43,703	809	5,127	3,127
Percent of Total	83%	1%	10%	6%

Source: State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, 2011-2012, with 2010 Census Benchmark*. Sacramento, California, May 2012

Housing prices in the County of Nevada have steadily increased over the years. In 2000, the median price for a single-family home was \$199,300. By 2011, the median price for a single-family home was estimated to be \$340,400, a 71 percent increase in 11 years. Like most of the nation, home prices declined rapidly over the past few years. It is estimated that the median price for a single-family home in Grass Valley was \$413,900 in 2009.

City of Grass Valley

Based on the most current DOF estimates, there were 6,647 households in the City in May 2012. Table 4.12-2, *Housing Stock in the City of Grass Valley (2012)*, summarizes the City’s housing stock.

**Table 4.12-2
Housing Stock in the City of Grass Valley (2012)**

Unit Type	Single-Family Detached Residential Units	Single-Family Attached Residential Units	Multi-Family Residential Units	Mobile Homes
Number of Units	2,965	202	3,041	439
Percent of Total	44%	3%	46%	7%

Source: State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, 1/1/2012, with 2010 Census Benchmark. Sacramento, California, May 2012*

Housing prices in Grass Valley have steadily increased over the years. As noted in the City of Grass Valley 2009-2014 Housing Element, in 1990 the median price for a single-family home was \$135,000. By 2007, the median price for a single-family home rose to \$415,000, a 207 percent increase in 12 years. Like most of the nation, home prices have declined rapidly in between 2008 and 2011. The DOF estimated the median price for a single-family home in Grass Valley was \$300,000 in 2008.

EMPLOYMENT

County of Nevada

According to the 2009-2014 Housing Element (May 2010), the County's employment base is largely in retail and service trades. Approximately 21.7 percent of the jobs available in the County of Nevada are associated with education, health care, and social services and approximately 13 percent in retail.

Currently, the County has a labor force of approximately 48,812 persons, or approximately 1.1 persons per household are in the labor force (52,766 households ÷ 48,812 persons). Out of this labor force, approximately 8.7 percent were unemployed in 2012. This rate was slightly lower than California, which had an unemployment rate of 9.8 percent.

City of Grass Valley

According to the 2009-2014 Housing Element (January 2010), Grass Valley's employment base is largely in retail and service trades. Approximately one half of the jobs available in Grass Valley are associated with retail and approximately 20 percent are in health care and social services. Within Nevada County, employment opportunities are mainly concentrated in education, health care and social assistance, construction and retail. Approximately 47 percent of the jobs in Nevada County are within these fields, according to the U.S. Census Bureau.

Significant differences exist between the types of jobs available in Grass Valley and the occupations of employed Grass Valley residents, because most residents (57 percent) commute to jobs outside Grass Valley. Although most jobs in Grass Valley are in retail and service industries, many Grass Valley residents hold jobs outside the City in manufacturing, education, government, and construction trades.

The difference between jobs in Grass Valley and jobs held by Grass Valley residents creates a "reverse commute." Many low- to moderate-wage earners employed in Grass Valley commute from homes outside the City, while many Grass Valley residents commute from their homes in the City to higher paying jobs outside Grass Valley.

Currently, the City has a labor force of approximately 5,680 persons, or approximately 1.1 persons per household are in the labor force (6,077 households ÷ 5,680 persons). Out of this labor force, approximately 7.9 percent were unemployed in 2012. This rate was slightly lower than Nevada County, which had an unemployment rate of 9.8 percent.

JOBS / HOUSING BALANCE

Jobs/housing balance is a ratio between the number of housing units and the number of jobs within a city or county. A jobs/housing ratio that is less than 1.0 indicates that the community has more homes than jobs. A jobs/housing ratio that is higher than 1.0 indicates that the community has more jobs than homes.

Nevada County

As noted above, Nevada County has approximately 52,766 households and there are approximately 48,812 jobs in the County. This equates to a jobs/housing ratio of 1.1:1 for the County of Nevada, which means that there are 1.1 jobs per household.

City of Grass Valley

Grass Valley has approximately 6,077 households and there are approximately 5,680 jobs in the City. This equates to a jobs/housing ratio of 0.9:1 for the City of Grass Valley, which means that there are 0.9 jobs per household.

4.12.2 REGULATORY SETTING

LOCAL FRAMEWORK

County of Nevada General Plan

Housing Element

The 2009-2014 Housing Element, adopted in May 2010, examines Nevada County's current as well as projects future housing needs. The Housing Element also includes statements of community goals, objectives, and policies concerning those housing needs, and it includes a housing program that responds to current and future needs within the limitations posed by available resources. There are many factors outside the County's control which constrain the development of housing, especially housing in affordable to low and very low income households. The goals, policies, and programs contained within the Housing Element address those constraints in order to promote development of sufficient housing to meet the needs of all Nevada County residents, as well as ensure that there are adequate sites that will facilitate housing development for all income groups within the County. The following goals, policies, and programs set forth in the Housing Element are applicable to the proposed project:

Goals

Goal HD-8.1

To provide for a variety of housing types by tenure and price in all residential areas for all income segments, special needs groups, and the County's workforce for both existing Nevada County residents, as well as potential future residents,

commensurate with the Regional Housing Need Allocation (RHNA) Plan and the County's quantified objectives.

- Goal HD-8.2 Attempt to achieve the Housing and Community Development (HCD) RHNA goals for the 2007-2014 planning cycle. These allocations include providing: 656-units affordable to very-low income households; 527-units affordable to low-income households; 593-units affordable to moderate-income households; and 1,212-units affordable to above moderate-income households.
- Goal HD-8.3 Ensure that appropriate types and higher density housing development are directed to Community Regions and Rural Centers.
- Goal HD-8.4 Coordinate affordable housing efforts with the Town of Truckee, City of Grass Valley and City of Nevada City.

Policies

- Policy HD-8.1.1 Utilize conventional planning and zoning tools to encourage the production of housing for all income segments and special housing needs groups in Nevada County.
- Policy HD-8.1.5 Ensure an adequate supply of land to meet the County's share of regional lower-income housing needs during the period from July 2007 to July 2014 through the following:
- a. Evaluate existing non-residential land uses that are suitable for rezoning for higher density multi-family residential, while maintaining the County jobs/housing balance goals.
 - b. Increase the supply of sites zoned for multiple-family and low and moderately priced new multi-family developments where infrastructure and services are available. Where possible, analyze residential sites within the Spheres of Influence of the incorporated cities that could be candidates for increased residential density. All potential changes in General Plan and zoning designations within a Sphere of Influence shall be consistent with that jurisdiction's planned residential densities.
- Policy HD-8.1.11 Maximize utilization of projected residential density on lands designated as Urban High Density (UHD), 15-units per acre and 20-units per acre within Sphere of Influence areas and Urban Medium Density (UMD), 6-units per acre, after considering environmental and public service constraints upon and County development standards for each proposed project. Where legally and fiscally possible, the County shall make every effort possible to mitigate constraints upon multi-family development projects rather than under-utilize planned build-out.
- Policy HD-8.1.14 Coordinate with the cities to maximize the development potential of sites that will eventually be annexed to the cities by increasing the number of sites that are legally permissible,

physically possible, and economically feasible for development through the provision of high density zoning and supporting infrastructure. Annexation agreements with the cities should be used to assure that sites zoned by the County for multiple-family housing will remain zoned at the same or higher density once annexed to the cities.

Programs

Program HD-8.1.3

To accommodate the unmet housing need of 571 low and very-low income units identified in the 2003-2008 Nevada County Housing Element, the County will rezone at least 29-acres suitable and available for development in the planning period through either:

- 1) rezones within the cities" sphere of influence to a density of 20 units per acre (R3-20); or
- 2) rezone a sufficient amount of land outside of the cities" sphere of influence to a minimum density of 16 units per acre; or
- 3) a combination of rezoned land within and outside of the cities" sphere of influences at the identified densities may also be used to satisfy the unmet need of 571 units.

The sites to be rezoned may include, but are not limited to, the 23 candidate sites identified in Table C.1 (previously identified in the 2003-2008 Housing Element) and Table C.2 (Appendix C) of the Housing Element. A minimum of 50 percent of the 571 units shall be accommodated on sites zoned exclusively for residential uses. Owner occupied and rental multi-family residential uses on these sites shall be allowed by right (without a conditional use permit, planned unit development plan or other discretionary action) as required by Government Code 65583.2(h). The rezoned sites shall provide for a minimum of 16-units per site and require a minimum density of 16-units per acre.

Program HD-8.1.4

To accommodate the unmet housing need of 699 low and very-low income units identified in the 2009-2014 Nevada County Housing Element, the County will rezone at least 35-acres suitable and available for development in the Planning Period through either:

- 1) rezones within the cities sphere of influence to a density of 20 units per acre (R3-20); or
- 2) rezone a sufficient amount of land outside of the cities sphere of influence to a minimum density of 16 units per acre; or
- 3) a combination of rezoned land within and outside of the cities sphere of influences at the identified densities may also be used to satisfy the unmet need of 699 units.

The sites to be rezoned may include, but are not limited to, the 23 candidate sites identified in Table C.1 (previously identified in the 2003-2008 Housing Element) and Table C.2 (Appendix C) of the Housing Element. A minimum of 50 percent of the 699 units shall be accommodated on sites zoned exclusively for residential uses. Owner occupied and rental multi-family residential uses on these sites shall be allowed by right (without a conditional use permit, planned unit development plan or other discretionary action) as required by Government Code 65583.2(h). The rezoned sites shall provide for a minimum of 16-units per site and require a minimum density of 16-units per acre.

Program HD-8.1.5

The County shall amend the Zoning Regulations to create a definition and development standards for an Affordable Housing (AH) overlay district that will be attached to R2, R3 and zoning districts that allow Mixed Use sufficient to accommodate the new construction objectives under Programs HD-8.1.3 and HD-8.1.4. The overlay district shall only be applied to sites that can accommodate at least 16-units, shall require a minimum density of 16-units per acre and accommodate higher density housing as a permitted use and meet all requirements (described in Programs HD-8.1.3 and HD-8.1.4) pursuant to Government Code Sections 65583.2(h) and (i).

Land Use Element

The Land Use Element of the General Plan includes the following goals and policies that are applicable to the proposed project:

Goal 1.1 Promote and encourage growth in Community Regions while limiting growth in Rural Regions.

Policy 1.2 Within Nevada County, the Community Regions are established as the areas of the County within which growth should be directed to provide compact, areas of development where such development can be served most efficiently and effectively with necessary urban services and facilities.

The *Community Regions* are defined by Community boundaries generally based upon the following criteria:

- a. Existing development patterns reflecting higher intensity and density of use and need to provide land area to accommodate a balanced pattern of development in the County;
- b. Existing and potential service areas for major services such as public sewer and water;
- c. Location of major topographic patterns and features;
- d. Major transportation corridors and travel patterns;

- e. Ability to provide and maintain appropriate transitions at Community boundaries.

In addition to the Town of Truckee, Grass Valley and Nevada City, *Community Regions* are established for Higgins Corner/Lake of the Pines, Lake Wildwood and Penn Valley. Boundaries for the Community Regions are shown on the Nevada County General Plan Land Use Maps.

Goal 1.2

Recognize and allow for a range of land uses that preserve the qualities of each Rural and Community Region and Rural Place.

Policy 1.3

To provide for an appropriate range of land use types and densities within the County, the following Nevada County General Plan land use designations are established:

- a. Urban High Density Residential (20 dwelling units per acre maximum within incorporated area's spheres of influence; 15 units per acre elsewhere).

Policy 1.4

The Nevada County General Plan is intended to provide for the development of Nevada County as a balanced community with adequate amounts of land designated in each land use category to achieve a balance among housing, employment, retail and commercial services, recreation, and public facilities.

The amount of land provided in the land use designations on the Nevada County General Plan Land Use Maps provide a balance between types of housing units based upon the following criteria for the County as a whole:

Residential Density

- a. Multiple Family Residential (Urban High Density and Urban Medium Density) - up to 30 percent of total dwelling units.

Policy 1.5

The General Plan provides for future development in accordance with the following criteria for the land use designations applicable to the proposed project:

- a. Urban High Density Residential (UHD) is intended to provide for residential uses, including single- and multi-family housing types at higher densities, of up to 20 dwelling units per acre within incorporated area's spheres of influence and 15 units per acre elsewhere, in locations with a high degree of access to transportation facilities (including arterial and major collector roads and public transit), shopping and services, employment, recreation and other public facilities. Areas of Urban High Density Residential use are intended to provide locations appropriate for the development of affordable housing due to the higher density allowed and resulting cost efficiency in costs of land development and provision of services. Locations which are adjacent to or in close proximity to Community Commercial,

Business Park or Industrial areas are considered appropriate for this designation.

City of Grass Valley 2020 General Plan

Housing Element

The City of Grass Valley 2009-2014 Housing Element, adopted in January 2010, includes goals to protect the quality of the City's residential neighborhoods while providing opportunities for new housing to meet the community needs. New housing should be compatible with and complement the existing pattern of residential neighborhoods. In achieving the City's housing goals, Grass Valley must strike a balance between the need to provide affordable housing, preservation and enhancement of existing neighborhoods, maintenance of high development standards and protection of environmental resources. The following goals set forth in the Housing Element are applicable to the proposed project:

Goal A

To Designate Sufficient Land at Appropriate Densities and Establish Development Standards and Permit Procedures to Accommodate the City's Share of Nevada County's Housing Needs for All Income Groups

Program 1: Adequate Sites for Housing

Action: Grass Valley shall work with owners of vacant and underutilized land to provide sufficient sites with adequate zoning, public facilities, and services to meet the City's housing needs for all income groups. The actions of this program applicable to be proposed project are as follows:

- a) As land is annexed, the City shall utilize one or more of the following options: 1) apply an appropriate zoning category or categories that reflects environmental conditions and development needs; 2) work with property owners to prepare a specific plan containing project-specific development standards; or 3) apply a planned development to permit variation from the strict application of zoning standards. These options reflect historic City practices in annexing land since the adoption of the 1993 Housing Element.
- b) The City shall concentrate annexation efforts on unincorporated sites adjacent to the City containing reasonable access to the City's sewer system and that have the capacity to accommodate a mix of low- and moderate-income housing. The City believes there is adequately zoned land within the existing City limits; however, the City shall continue to process the larger SDA annexation applications to meet the City's longer-term housing needs.
- d) For larger annexations, Grass Valley shall encourage developers to use a planned development or specific plan process to allow greater flexibility and variety in housing types and densities. This will allow greater flexibility to land owners in the design of their development proposals. Planned development permits also facilitate the development

of multifamily housing without the need for subsequent rezoning or conditional use permits by vesting the right to construct multifamily housing at the time a planned development permit is approved.

- g) To assist in the development of the housing needs for the extremely low-income households (ELI), the City will continue to support and promote the use of secondary units, carriage homes, live/work units, transitional and supportive housing, and residential care facilities. Since the City does not restrict the number of rooms in a residence, the City will also promote the use of single-room occupancy units (SRO). The City will need to identify and meet with nonprofit builders who specialize in building extremely low-income housing. The City will identify local, state, and federal funding sources which can be used to develop ELI units. The City will further support this effort in conjunction with the Housing Element Programs 2, 3, 11, 13, 14, 15, 16, 17, 19 and 20.

Program 4: Implement General Plan Policies

Action: Through measures described in the Housing Element Programs 1 – 3, the City shall continue to implement City of Grass Valley General Plan policies that encourage efficient use of unconstrained land and a healthy economic base, such as:

- Avoiding slopes and environmental resource areas
- Maximizing efficient use of unconstrained portions of residentially designated properties by allowing opportunities for higher densities on unconstrained land

Goal B

To Address Special Housing Needs as defined by State Law and Local Conditions

Program 11: Housing Opportunities for Large Families

Action: Through its ongoing collaborations with nonprofit organizations and other public agencies, the City shall seek to include housing units suitable for large families in new developments containing affordable housing. The City shall continue to seek funding for affordable housing projects and programs (see Program 15 of the Grass Valley Housing Element).

- Requiring that affordable family housing projects include three- and four-bedroom housing units, with the goal that the percentage of such units will match the percentage of large families in Grass Valley (six percent in 2000), unless the developer can show it is financially infeasible to include such a percentage.

- Providing financial and regulatory incentives listed in Housing Element Programs 14 and 15 to facilitate the production of affordable housing.
- Providing density bonuses for projects that include minimum percentages of housing units affordable to very low- and/or low-income households (see Program 13).
- Making the use of state and federal funds, including bond proceeds or tax credits, for large family housing one of the City's priorities (see Housing Element Programs 15 and 16).

Goal C

To Meet the City's Low- and Moderate-Income Housing Needs

Program 13: Density Bonus

Action: The City shall promote its density bonus program as part of the pre-application process. The City will determine, on a case-by-case basis, the appropriate incentive(s) to offer to make a proposed affordable housing development financially feasible.

Program 14: Affordable Housing requirements of Redevelopment Law

Action: The Grass Valley Redevelopment Agency shall continue to implement a plan for the use of tax increment housing set-aside funds and procedures for complying with the affordable housing provisions of redevelopment law (California Health and Safety Code sections 33334.2, 33413, and 33490) , which require that:

- At least 20 percent of the Agency's tax increment funds be set-aside for housing benefiting low- and moderate-income households;
- At least 15 percent of any privately constructed or rehabilitated dwelling units within the Redevelopment Project Area be affordable to low- or moderate-income households, and
- At least 30 percent of any dwelling units constructed or rehabilitated by the Redevelopment Agency are affordable to low- or moderate-income households.

Goal F

To Promote Residential Energy Conservation

Program 25: Energy Conservation for New Construction and Residential Design

Action: The City shall continue to enforce state energy standards for new residential construction (Title 24 of the California Code of Regulations) and shall encourage, through the City's residential design guidelines, additional energy conservation measures such as the siting of buildings, landscaping, and solar access.

Land Use Element

The Land Use Element of the General Plan includes the following goals and policies that are applicable to the proposed project:

Goal 5-LUG	Provide for a broad range of housing opportunities, including opportunities for low, moderate and middle income households.
Objective 12-LUO	Designation of residential building sites sufficient in number and variety to meet projected demand.
Objective 13-LUO	Provision of sufficient affordable housing units for those working in Grass Valley.
Objective 14-LUO	Utilization of available programs to promote the construction of affordable housing.
Policy 10-LUP	Annex properties within the Grass Valley Planning Area prior to or in conjunction with their development.
Policy 14-LUP	Encourage incorporation of multiple family development in new development areas while maintaining high design standards.
Policy 22-LUP	Assure that a sufficient number of sites are zoned for multiple family use.
Policy 28-LUP	Promote the construction of affordable housing utilizing the techniques and approaches described in this General Plan.

4.12.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact on population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

AREAS OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or not reasonably foreseeable:

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

Of the 18 sites, only four sites, Sites 8, 9, 15, and 16, contain existing single-family residential uses, all other sites are currently undeveloped. Future development on these sites would result in the removal of the four existing structures (one on each site). However, the removal

of the existing structures would not result in the displacement of substantial numbers of existing housing elsewhere as the structures would be replaced onsite with multi-family high density residential development resulting in a net increase in available housing on each of these four sites. Therefore, the proposed project would not displace a substantial number of existing housing units or people necessitating the construction of replacement housing elsewhere. No impact would result.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Population Growth

4.12-1 THE PROPOSED PROJECT WOULD DIRECTLY INDUCE POPULATION GROWTH IN THE COUNTY/CITY OF GRASS VALLEY.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Nevada County

Development on Sites 10 through 18 would have a density of 16 du/acres. Based on the density ratio, the maximum number of residential units would be 1,201 within the unincorporated areas of Nevada County. Based on the 2012 DOF estimate of 2.03 persons per household for Nevada County, implementation of the proposed project would result in an increase in population of approximately 2,438 residents in the County.

The Nevada County General Plan estimates the population within the County's Planning Area will be 114,451 residents in 2020. With a current population of approximately 97,182, this would result in 17,269 new residents. The project's estimated population represents approximately 22 percent of the County's anticipated population growth which would occur over a 10- to 20-year timeframe. As such, the proposed project would result in an increase in population and growth estimates over what was identified in the General Plan. However, as stated in the Land Use Element, Goal 1.2, Policy 1.4(a), the County of Nevada has planned for high density residential development to comprise up to 30 percent of housing units in the County. Additionally, the 2009-2014 Housing Element notes that approximately 38 percent of Nevada County's population has an income that is within the low, very low or extremely low income categories. Furthermore, approximately 8.3 percent of all extremely low-income households are overpaying for housing. Although the proposed project would result in an increase in housing units, the proposed project would be developed to accommodate future population demand and most importantly for the 38 percent of the population needing more affordable housing.

In addition, construction of the proposed project would occur over a 10- to 20-year timeframe, depending on market conditions. As such, temporary increases in employment related to construction jobs would not necessitate new housing or infrastructure in the area. Therefore, as the proposed project would be meeting the demand for affordable housing and temporary construction activities would not directly induce population growth, impacts would be less than significant.

Grass Valley

Development on Sites 1 through 9, which are all located within the Grass Valley Sphere of Influence, would have a maximum density of 20 dwelling units per acre (du/acre). Based on the density ratio, the maximum number of residential units would be 1,480 within the Grass Valley Sphere of Influence. Based on the 2012 DOF estimate of 2.00 persons per household for Grass Valley, implementation of the proposed project would result in an increase in population of approximately 2,960 residents in Grass Valley.

Based on the Grass Valley 2020 General Plan, the population within the City's Planning Area, which includes the existing incorporated City, City Sphere of Influence, and areas likely to be annexed into the City, will be 23,395 residents in 2020. With a current population of approximately 12,638, this would result in 10,757 new residents, nearly doubling the current population. The proposed project's estimated contribution of 2,960 residents located within the City's sphere of influence would represent approximately 28 percent of the City's anticipated population growth and would occur over a 10- to 20-year timeframe. However, the proposed densities for the project sites within the City's Sphere of Influence area are higher than what is considered in the City's current General Plan. As such, the project would induce growth within the City upon annexation of the properties into the City of Grass Valley.

Construction of the proposed project would occur over a 10- to 20-year timeframe, depending on market conditions. As such, temporary increases in employment related to construction jobs would not necessitate new housing or infrastructure in the area. Therefore, as the proposed project would be meeting the demand for affordable housing and temporary construction activity would not directly induce population growth, impacts would be less than significant.

Mitigation Measures: No feasible mitigation measures have been identified. The County of Nevada does not have land use authority over the City of Grass Valley to amend or alter the City's existing planning policies or the existing General Plan.

Level of Significance After Mitigation: Significant and Unavoidable.

4.13 PUBLIC SERVICES AND UTILITIES

This section evaluates potential impacts to public services and utilities that could result from the proposed project. Potential impacts resulting from wildland fires on the project site are discussed in Section 4.9 (Hazards and Hazardous Materials); potential impacts associated with stormwater runoff and drainage facilities are discussed in Section 4.10 (Hydrology and Water Quality); and potential impacts on parks and recreation facilities are discussed in Section 4.14 (Recreation).

The following governmental agencies provided the data used to prepare the analysis in this section; refer to Appendix K (Service Availability Letters):

- Nevada County Sheriff's Office
- Nevada County Consolidated Fire Department
- Nevada County Fire Marshal Office
- City of Grass Valley Fire Department
- City of Grass Valley Police Department
- Nevada Joint Union High School District
- Grass Valley School District
- Nevada County Public Works Department
- City of Grass Valley Public Works Department
- Nevada Irrigation District
- Waste Management of Nevada County

In addition, information in this section utilizes analysis contained the *Water Supply Assessment for the Nevada County Housing Element Rezone Program*, prepared by RBF Consulting on behalf of the Nevada Irrigation District (NID) (January 2013). Refer to Appendix J.

4.13.1 ENVIRONMENTAL SETTING

NEVADA COUNTY

Fire Protection and Emergency Services

Nevada County Consolidated Fire District

Both the Nevada County Consolidated Fire District (NCCFD) and Nevada County Fire Marshal Office provide fire protection and emergency medical services within the County. The NCCFD serves the area generally north, west and south of the City limits. The NCCFD is a full-service emergency response agency. The NCCFD covers approximately 143 square miles through five service areas and 14 stations, and a population of over 35,000 with four District 24 hours per day/seven days per week staffed stations, two joint-staffed 24 hours per

day/seven days per week stations, and seven paid-call stations. Average response time into the project areas is approximately five to seven minutes.¹

The NCCFD is broken down into the following areas:

- 49er Area - covers the areas of State Route 20, Cement Hill, Wet Hill, Newtown Road, Cascade Shores, Lake Ridge Estates, Deer Creek Park, Banner Mountain, Red Dog Road, and the areas around Nevada City. Stations: Station 80, Station 81, Station 82, Station 83, Station 84.
- Gold Flat Area - covers the Glenbrook Basin, Loma Rica Industrial area, Nevada County Airpark, and a portion of the rural areas between Grass Valley, Nevada City, and Banner Mountain. Stations: Station 54, Station 86.
- Alta-Oaks-Sunset Area - covers the Alta, Oaks, and Sunset areas. It also borders Watt Park, Penn Valley, and Gold Flat areas. Station: Station 87.
- Bullion Area - covers the area south of McKnight Way to George Brewer Road along the Highway 49 corridor, and all of the Alta Sierra Subdivision. Stations: Station 88, Station 89, Station 90.
- Watt Park Area - covers the area west of Grass Valley along McCourtney Road, and south of Hwy 20, including the Wolf Mountain area. Stations: Station 1, Station 91, Station 92.

Penn Valley Fire Protection District

Penn Valley Fire Protection District (PVFPD) has three fire stations, two of which are staffed. The closest to these projects is located at 10513 Spenceville Road, near the intersection of Penn Valley Drive and Spenceville Road. The closest station has a fire engine, water tender and a medic unit and is staffed with a minimum of two qualified personnel. The next closest station is located at Pleasant Valley Road and Lake Wildwood Drive and has a fire engine and a medic unit (along with a reserve engine) and is also staffed with a minimum of two personnel.

PVFPD, in addition to the normal fire suppression services, provides advanced life support (paramedics) and transport units. Average travel time to the project sites would be one to four minutes and an additional two to three minutes for dispatch reaction time.²

Higgins Fire Protection District

The Higgins Fire Protection District (HFPD) is a public agency, supported by public funds and governed by an at-large board of directors. This special district was established November 8, 1977. The goals and objectives of the HFPD consist of five equally important elements: fire prevention, fire protection planning, fire suppression/emergency incidents, emergency medical service/rescue, and training. The HFPD is a combination department, consisting of career staff and paid call firefighters. Additionally, the HFPD contracts with CAL FIRE (California Department of Forestry and Fire Protection) to provide 24-hour engine staffing during non-fire season. CAL FIRE response is not, however, limited to the contract period as the two agencies are co-located at the main station on Combie Road. The HFPD also maintains mutual and automatic aid agreements with surrounding fire districts and other fire agencies in Nevada and Placer Counties.

¹ Nevada County Consolidated Fire District, Service Availability Letter, prepared by Terry McMahan, Deputy Fire Marshal, February 11, 2013.

² Penn Valley Fire Protection District, Service Availability Letter, prepared by Gene Vander Plaats, Fire Chief, April 15, 2013.

The HFPD provides fire protection and emergency service response to an estimated 12,000 permanent residents in southern Nevada County. The HFPD's 90-square mile area is primarily rural zoning, with the exception of the Lake of the Pines gated community, and is serviced by three fire stations located geographically at six-mile intervals.

While there are three Fire Stations in the HFPD, due to funding constraints, staffing is currently provided for two (not all three) stations 7 days a week, 24 hours a day.

- Station 21 - Combie Station is jointly shared with CDF. Station 21 serving Sites 14, 15, 16, 17, and 18 is currently open 24 hours per day, 7 days per week. While it does not close during the year, it must also cover the areas that Station 22 Dog Bar and Station 23 McCourtney used to cover before those stations started rotational closures.
- Station 22 – Due to budget constraints, Dog Bar Station is currently open even months of the year: February; April; June; August; October; and, December.
- Station 23 - McCourtney Station is currently open odd months of the year: January; March; May; July; September; and, November.³

Sheriff's Protection

The Nevada County Sheriff's Department provides law enforcement to all the unincorporated areas of Nevada County. Sheriff's services include patrol, dispatch, investigations, search and rescue, boat patrol, correctional facilities, and coroner and court security services. The department's main office is located at 950 Maidu Avenue (Eric Rood Administration Center) in Nevada City. A substation is located in the Town of Truckee, which contains a small jail facility. The Sheriff's Department also has a satellite jail located on the campus of the main governmental/administrative complex along with a satellite court-holding facility in downtown Nevada City. Sheriff's deputies are dispatched and patrols initiated from these locations.

Sheriff's Department facilities also include two satellite volunteer service centers: one in the business center across from the main gate to Lake Wildwood and the other in a business complex near Lake of the Pines in the southern part of Nevada County. Both centers are staffed on certain days and hours by citizen volunteers and are utilized by patrol staff to meet with citizens and to complete their law enforcement reports. The department does not currently have any set standards as to the number of officers per 1,000 population. Response times in the vicinity of the proposed project area are estimated to be approximately 20 to 25 minutes as the main station, located in Nevada City, is approximately 20 miles north of the sites in both Penn Valley and Lake of the Pines. Average response times to individual address/areas within the County are separately tracked. Response times are tracked by the incident. The Nevada County Sheriff's Department records a "Response Times by Priority" report. "Priority 1" calls are those in-progress felonies, misdemeanors including death. "Priority 2" calls are those felonies and misdemeanors that are not in-progress. "Priority 3" calls are all others not falling into the prior two categories. On a three-year average, the response times are as follows: creation of call to dispatching resources is 12 minutes nine seconds, dispatch to on scene is 12 minutes nine seconds, and on scene to clear is thirty-two minutes fifty-two seconds.⁴

The Sheriff's Department has mutual aid assistance agreements with the California Highway Patrol (CHP), which provides police protection on all state and county roadways within

³ <http://higginsfire.org/>

⁴ Nevada County Sheriff's Office, Service Availability Letter, prepared by Keith Royal, Sheriff-Coroner-Public Administrator, February 7, 2013.

Nevada County. CHP also provides backup protection to the Sheriff's Department as needed, and the Sheriff's Department provides backup protection to the CHP.

Schools

Nevada County has nine elementary/middle school districts feeding into the high schools, which provide secondary education to over 4,000 students with a variety of schools and programs.

Penn Valley

The proposed project Sites 10 through 13 within the Penn Valley Area would be served by Williams Ranch School K-3, Pleasant Valley School 4-8, Ready Springs School, and Vantage Point Charter School K-12.

Lake of the Pines

The proposed project Sites 14 through 18 are within the boundaries of the Pleasant Ridge Union School District (PRUSD) and the Nevada Joint Union High School District (NJUHSD). PRUSD is located in southern Nevada County beginning at the Placer/Nevada county line, along the Bear River, and extending north along State Route (SR) 49 until approximately 3 miles south of Grass Valley. PRUSD also extends from Yuba County on the west to the Placer county line at Taylor Crossing on Dog Bar Road on the east. The Lake of the Pines and Alta Sierra communities, as well as the residential developments along SR 49, are within the PRUSD boundaries. The NJUHSD district offices are located in Grass Valley with the district serving western Nevada County. Three high schools are within the NJUHSD jurisdiction: Bear River High School, Nevada Union High School, and Park Avenue Alternative Education.

Other Services and Facilities

Other public services in the County include medical facilities and libraries. There are two hospitals in Nevada County; Tahoe Forest Hospital in Truckee and Sierra Nevada Memorial Hospital located at 155 Glasson Way in Grass Valley. Sierra Nevada Memorial Hospital is a full-service hospital offering a comprehensive range of services including 24-hour emergency medical services, a quick care center and a helipad for trauma care transportation. Additionally, there are several medical clinics in Nevada County. There are six public libraries located within the County, the Madelyn Helling Library located at 980 Helling Way, the Grass Valley Library - Royce Branch located at 207 Mill Street, the Truckee Library located at 10031 Levon Avenue, the Doris Foley Library for Historical Research located at 211 North Pine Street, the Penn Valley Station located at 11336 Pleasant Valley Road, and the Bear River Station located at 11130 Magnolia Road.

Wastewater

The County does not comprehensively provide wastewater collection and treatment to all areas of the County. Primarily there are eight Community Regions, two Rural Regions, one Rural Area and two districts in Eastern Nevada County, that have access to public sewage disposal. Much of Nevada County is served by on-site sewage disposal/septic systems. Lack of extensive public sewage disposal can be viewed as the primary limiting factor to the development of affordable housing in Nevada County. All other services are viewed to be adequate to accommodate planned higher density multi-family housing.

The County of Nevada's Wastewater Division of the Public Works Department administers and maintains sewage collection systems and treatment facilities for Nevada County Sanitation District No. 1. The Sanitation District provides sewer service to 5,230 accounts in western Nevada County with a population of 14,000 persons. Currently, there are ten zones within the Sanitation District with facilities that collect and treat 1,245,000 gallons of wastewater each day. Three of these zones would be affected by the proposed project: Lake of the Pines, Penn Valley, and Lake Wildwood Zones. None of the sites are currently served by sewer but are near existing sewer lines or can be reached through the extension of existing sewer lines.

Penn Valley Wastewater Treatment Plant

The Penn Valley Wastewater Treatment Plant (PV-WWTP) is located south of the community of Penn Valley. The Penn Valley collections system conveys septic tank effluent from individual septic tanks through a network of force mains to the PV-WWTP. The PV-WWTF serves 347 active connections and was historically permitted monthly average dry weather flow limit of 89,700 gallons per day. The treatment facility consists of aerated lagoons, a storage reservoir, and 33 acres of pasture land for spray irrigation.

Due to deficiencies with the current PV-WWTP, including inadequate pond size and surface discharge area and discharge violations, the PV-WWTP is currently operating under a cease and desist order (CDO) issued by the Central Valley Regional Water Quality Control Board (CVRWQCB). The CDO limits monthly average dry weather inflow to 60,000 gallons per day until facility improvements are made or another means of sewer treatment is developed. Upon the completion of a Facilities Improvement Design Report (FIDR) in December 2011, the construction of a pipeline from Penn Valley to the Lake Wildwood WWTP was determined to be the most cost-effective way to address the CDO. In April 2012, the Nevada County Sanitation District Board of Directors approved Resolution No. SD12-06 approving pursuit of a State Revolving Fund loan to construct a pipeline from Penn Valley to the Lake Wildwood WWTP. However, as of the preparation of this EIR, the pipeline has not been constructed and there is not sufficient capacity at the Penn Valley Wastewater Treatment Plant to serve those project sites (Sites 10-13) within the Penn Valley Wastewater Treatment Plant service area.

Lake of the Pines Wastewater Treatment Plant

The Lake of the Pines WWTP is located southeast of Sites 14 through 17 and northwest of Site 18, at 10803 Riata Way. As noted in the Nevada County General Plan, in 2008, the Lake of the Pines Wastewater Treatment Plan was expanded to accommodate an additional 500 equivalent dwelling units (EDUs) in addition to being upgraded. However, at the time of the preparation of this EIR there is not sufficient capacity at the Lake of the Pines Wastewater Treatment Plant facility to treat the wastewater from Sites 14 through 17.

Water

Water is supplied to the both the County and City by the NID, an independent California special district that supplies irrigation, municipal, domestic and industrial water. NID was organized in 1921 under the California Irrigation District Act of 1897 as a nonprofit water agency, and operates under Division 11 of the State Water Code. Located on the western slope of the Sierra Nevada Mountain Range, NID encompasses 287,000 acres, mainly in Nevada and Placer Counties. NID's mountain watersheds cover 70,000 acres and include the upper portions of the Middle Yuba River above Milton Diversion, Canyon Creek above

Bowman Reservoir, and Deer Creek. NID stores water in ten reservoirs that have a storage capacity of approximately 280,380 acre-feet and operates seven water treatment plants (WTPs) that supply approximately three billion gallons, or approximately 9,000 acre-feet, of treated drinking water per year. The proposed project areas are located within NID's service area.

NID has water rights to the majority of its water supply. Approximately three percent of NID's water supply is from outside sources. These include water contract purchases from Pacific Gas and Electric (PG&E) and recycled water obtained from four municipal wastewater treatment plants: Grass Valley, Nevada City, Auburn, and Placer County at Joeger Road.

Each of the sites would be treated by one of four existing water treatment plants:

- East George Treatment Plant: Sites 1, 3 through 9;
- Loma Rica Treatment Plant: Site 2;
- Lake Wildwood: Site 10-13; and,
- Lake of the Pines: Sites 14 through 18.

The existing potable water infrastructure available to each of the sites varies by site. All sites have access to existing potable water systems, but some sites have more improvements that are required to get potable water to the site.

- Site 1: No additional improvements are required
- Site 2: No existing water main is in the area and additional improvements are required.
- Sites 3-9: An existing water main is located within Brunswick Road and only minimal improvements are required to bring water to the sites.
- Sites 10-13: Improvements to the Lake Wildwood Treatment Plant are required as the existing facility is at 85% capacity.
- Sites 14-17: Only minor improvements are required to get the water to the property.
- Site 18: An existing water main is located within Combie Road. An extension of the pipeline would be required to get water to the project site.

Solid Waste

Nevada County provides solid waste collection service through a franchise for collection and disposal of waste from residential and nonresidential areas. The Nevada County Integrated Waste Management (Solid Waste) Division is responsible for all solid waste and hazardous materials disposal and recycling services. Waste Management of Nevada County (Waste Management) is the current hauler for both solid waste refuse and collection of recyclables. Refuse collected by Waste Management and self-hauled refuse are collected at the McCourtney Road Transfer Station and Recycling Center located at 14741 Wolf Mountain Road in Grass Valley. Nevada County does not have a solid waste landfill; all solid waste refuse is hauled to out-of-County landfills under the contract with Waste Management Systems, Inc.

Waste Management has an agreement with Lockwood Regional Landfill, located in Sparks, Nevada, which serves as the primary landfill disposal site during good weather conditions. The Lockwood Regional Landfill has a capacity of 302.5 million cubic yards, with a disposal

area of 856.5 acres. Currently, the daily volume of waste received at the landfill, based on a five day work week, is approximately 5,000 tons. Based on an April 2010 aerial survey, the landfill contains a waste volume of approximately 32.8 million cubic yards. The landfill opened in 1979 and has a life span of approximately 155 years. When inclement weather makes it infeasible to travel to the Lockwood Regional Landfill, solid waste is transported to the Anderson Landfill in Anderson, California. The Anderson Landfill has a capacity of approximately 16.8 million cubic yards with 11.5 million cubic yards of capacity remaining.

CITY OF GRASS VALLEY

The City of Grass Valley Fire Department (Fire Department) provides fire protection and emergency medical services within the City. The Fire Department is part of a tri-agency Joint Operating Agreement that includes the Nevada City Fire Department and Nevada County Consolidated Fire District. Under the agreement, the three agencies operate under a closest resource response plan providing for the response of the closest fire unit to an incident regardless of jurisdiction. Additionally, each agency has the resources of the others to draw on in the event of a significant incident.

The Fire Department has three locations: Fire Station #1 (474 Brighton Street), Fire Station #2 (213 Sierra College Drive), and City Hall (125 East Main Street). The Fire Department is staffed with 15 career personnel and administrative staff. Equipment includes three front line engines, one reserve engine, one Office of Emergency Services (OES) engine, a ladder truck, one support unit, and five staff vehicles. The Fire Department's ladder truck is the only ladder truck in Nevada County and responds to many mutual aid requests.

The Fire Department provides service to an area of five square miles and protects a population of approximately 13,000 residents. The Fire Department responds to approximately 2,900 incidents per year, 75 percent of which are calls for emergency medical response services.

The Insurance Services Office (ISO) is an independent organization that analyzes approximately 46,000 fire districts/departments in the U.S. and assigns a number from one to ten to each station based on the station's fire protection capabilities. In this classification system, Public Protection Classification Class 1 represents exemplary fire protection, and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria. The Fire Department has a current ISO rating of Class 4. The Fire Department was last rated in 2003 and generally is re-rated every 10 years.

The project area is in an Urban-Wildland Intermix area and has been classified by the California Department of Forestry and Fire Protection as being in a Very High Fire Hazard Severity Zone. Currently, the primary wildland fire protection responsibility rests with the State of California. With annexation by the City, the wildland fire protection responsibility for those areas retained in open space would be assumed by the City.

Police Protection

The City of Grass Valley Police Department (Police Department) provides police protection services within the incorporated boundaries of the City. The headquarters building is located at 129 South Auburn Street. Authorized staffing for the Police Department consists of 20 sworn officers and 6 civilian support personnel. The Police Department includes a 24-hour per day Dispatch Center, a Special Incident Team, and a Community Oriented Policing

Program (COPP). Average response times were unknown during the preparation of this EIR.⁵

Schools

The proposed project areas are within the Grass Valley School District and Nevada Joint Union High School District. Hennessy Elementary School, Scotten Elementary School, Lyman Gilmore Middle School, Silver Springs High School, Sierra Mountain HS/Adult School, and Nevada Union High School would serve the proposed project sites. Additionally, parents may elect to utilize the Grass Valley Charter School.

Other Services and Facilities

Other public services in the City include medical facilities and libraries. There are two hospitals in Nevada County, including the Sierra Nevada Memorial Hospital located at 155 Glasson Way in Grass Valley. Sierra Nevada Memorial Hospital is a full-service hospital offering a comprehensive range of services including 24-hour emergency medical services, a quick care center and a helipad for trauma care transportation. Additionally, there are several medical clinics in Nevada County. There is one public library located within the City, the Grass Valley Public Library, Royce Branch located at 207 Mill Street.

Wastewater

The City provides wastewater collection, treatment and disposal service to all properties within the City limits and to the Glenbrook Sanitation District, which is outside the City limits. The City's Wastewater Treatment Plant (WWTP) was originally built in 1950 and is located on a 29-acre site at 556 Freeman Lane in the southwest portion of Grass Valley. The WWTP has a rated capacity of 2.78 million gallons per day (mgd) average dry-weather flow (ADWF) and can accommodate a service population of 21,000 persons. The Grass Valley 2020 General Plan (2020 General Plan) anticipates that the City's population will grow to 23,395 by 2020. Solids produced during the wastewater treatment process are contracted to be removed from the WWTP site and the treated wastewater is discharged into Wolf Creek, a tributary of Bear River. None of the proposed project sites are currently served by sewer but are near existing sewer lines or can be reached through the extension of existing sewer lines.

Water

As with the entire County, water is supplied to the City by the NID, an independent California special district that supplies irrigation, municipal, domestic and industrial water.

Solid Waste

Solid waste collection service within the City of Grass Valley is provided in the same manner as the County (see previous discussion regarding solid waste in the County).

⁵ City of Grass Valley Police Department, Service Availability Letter, prepared by John Foster, February 14, 2013.

4.13.2 REGULATORY SETTING

STATE FRAMEWORK

Fire Protection

The California Fire and Building Codes address general and specialized fire safety requirements for buildings. Topics addressed in the code include, but are not limited to, fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, and industrial processes.

Schools

Senate Bill (SB) 50 created various methods of generating revenue to pay for school construction and remodeling. These methods consist of state school bond funds, local school bonds, and developer fees. There are three levels of developer fees: Level I, Level II and Level III. Level I fees are set by law, but can be adjusted for inflation. Level II fees require that developers pay for the entire local share of construction costs, which is 50 percent of total construction costs. Level II fees may be imposed by a school district on a yearly basis, but only if certain conditions are met. Level III fees require developers to pay for 100 percent of construction costs, and are imposed if the state is no longer allocating bond funds.

SB 50 stipulates that if a school district conducts a School Facilities Needs Analysis and meets certain other requirements, it may impose a statutory developer fee that may be significantly higher than the previously permitted Level I fees of \$2.63 per square foot of residential development. At this time, the Grass Valley School District and Nevada Joint Union High School District mitigation fee is \$2.97 per square foot of living space for residential uses and \$0.47 per square foot for retail, office and commercial uses.

Water

SB 610 requires the preparation of a Water Supply Assessment (WSA) to examine existing water supply entitlements, water rights and water service contracts relevant to the water supply for a proposed project. Projects required to prepare a WSA must meet one of the following criteria as defined by SB 610:

- Residential development of more than 500 dwelling units
- Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor area
- Commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor area
- Hotel or motel, or both, having more than 500 rooms
- Industrial, manufacturing or processing plant, or industrial park planned to employ more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area
- Mixed-use project that includes one or more of the projects specified above
- Project that would demand an amount of water equivalent to, or greater than, the amount of water required for 500 dwelling units

Under Assembly Bill (AB) 325, all developer-installed landscaping must be accompanied by a landscape package that documents how water use efficiency would be achieved through design. In addition, Title 24 of the California Administrative Code incorporates the California Building Standards, included as the California Plumbing Code (Part 5), which promotes water conservation. Title 20 addresses public utilities and energy and includes appliance and efficiency standards that promote water conservation. In addition, a number of state laws require water-efficient plumbing fixtures in structures.

The California Fire Code, Appendix B, outlines fire flow and storage reserve requirements for fire protection.

Solid Waste

The Integrated Waste Management Act (AB 939) mandates that communities reduce their solid waste. AB 939 requires local jurisdictions to divert 25 percent of their solid waste by 1995 and 50 percent by 2000, compared to a baseline of 1990. AB 939 also establishes an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance.

LOCAL FRAMEWORK

Nevada County General Plan

The Nevada County General Plan includes the following goals, policies and objectives regarding public services, utilities and service systems that would be applicable to the proposed project:

- Goal 3.1 Provide for public facilities and services commensurate with development type and intensity.
- Objective 3.1 Public facilities and services shall be directed as follows: a higher level to Community Regions and a lower level to Rural Regions.
- Policy 3.1 The levels of service and provision of public facilities in Community Regions shall be based upon improving the capacity of public facilities to serve higher levels of development directed to Community Regions. Planning for future public facilities and services in Community Regions shall be based upon the following criteria:
- a. public water and sewer
 - b. retention of existing emergency response time
 - c. intercommunity-transit
- Policy 3.2 The County shall encourage development within Community Regions where higher density development can more efficiently be provided with a full range of public facilities and services.
- Policy 3.3 The land use pattern reflected in the Nevada County General Plan Land Use Map is correlated with the future provision of public facilities to adequately serve said land uses based upon the service criteria and levels of service identified in Policy 3.1 and Policy 3.10. All General Plan amendments shall be required

- to show that the public facilities and services necessary to serve the proposed development are also correlated with the future provision of facilities and services according to the same criteria.
- Policy 3.4 To enable public services to be provided with the greatest degree of efficiency and cost-effectiveness, development within Community Regions shall be encouraged at the maximum density under the respective land use designations shown on the General Plan Land Use maps, consistent with environmental, infrastructure and other site constraints.
- Policy 3.5 Within Community Regions with existing public sewer and water systems, all new residential land divisions shall be required to connect to public sanitary sewer and water systems. Temporary use of private on-site systems may be allowed where public systems are not yet available but where a specific improvement plan and funding mechanisms are in place. A legally binding mechanism shall be required to insure that the development will connect to the public systems when available, and that the private systems will be discontinued.
- Objective 3.2 Ensure that the capacity, availability, financing, and capability of public services and facilities are sufficient to meet levels of service requirements for development.
- Policy 3.14 In order to ensure that capacity of public facilities is coordinated with the timing of development the County shall require for any development requiring a discretionary permit, and for any General Plan amendment, a determination of the adequacy of public facilities, or an impact fee program, to serve the proposed development.
- Policy 3.16 Where community sewer or water systems are installed or required as a condition of development, there shall be a contract, development agreement, formation of an area service district, or other legally enforceable mechanism to insure long term maintenance of the community system.
- Policy 3.17 The use of community sewer and/or water systems are encouraged where such systems are economically feasible for the intended service area.

City of Grass Valley 2020 General Plan

The 2020 General Plan includes the following goals, policies and objectives regarding public services, utilities and service systems that would be applicable to the proposed project:

- Policy 37-LUP Assure that new development pays its fair share of the cost of municipal services.
- Policy 39-LUP Assure that acceptable inter-agency agreements regarding future service and facility provision are in place prior to approval of any major new development.

Policy 40-LUP	Refer all development proposals to potentially affected governmental entities for review and comment.
Policy 10-SP	Adopt and implement appropriate standards for access roads, onsite driveway standards, fuel reduction and emergency water supply.
Policy 11-SP	Maintain appropriate standards for water supply, pressure and distribution for fire suppression purposes.
Goal 1-COSG	Provide a balance between development and the natural environment, protecting and properly utilizing Grass Valley's sensitive environmental areas/features, natural resources and open space lands.
Objective 6-COSO	Assurance of appropriate resource conservation and environmental protection measures as prerequisites to development.
Policy 21-COSP	Continue to implement water quality improvement plans, including storm water separation and sewage treatment plant expansion.

4.13.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact to public services, utilities and service systems if it would result in:

- Substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services such as fire protection, police protection, schools, parks, or other services
- Exceedance of wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)
- Construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (discussed in Section 4.10, Hydrology and Water Quality)
- Insufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements
- A determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to provide the project's projected demand in addition to the provider's existing commitments
- Service by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs

- Inability to comply with federal, state and local statutes and regulations related to solid waste

Section 15131 of the *CEQA Guidelines* addresses economic and social effects of a project. Pursuant to Section 15131(a), “Economic or social effects shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical change.”

POTENTIAL IMPACTS AND MITIGATION MEASURES

Public Services

4.13-1 THE PUBLIC SERVICE NEEDS OF THE PROPOSED PROJECT COULD RESULT IN SUBSTANTIAL ADVERSE IMPACTS.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Fire Protection and Emergency Services

The Nevada County Consolidated Fire Department, Nevada County Fire Marshal Office, and the City of Grass Valley Fire Department have standards for residential and commercial development within their respective jurisdictions, and the proposed project would be required to comply with these standards prior to issuance of building permits. The fire departments or fire marshal office would be involved in the review of project plans and the project developer would be required to incorporate the Fire Department’s requirements into the final project design as conditions of approval.

The proposed project would result in an increase in population of approximately 2,960 residents in Grass Valley and 2,438 residents in the County (refer to Section 4.12 [Population and Housing], for additional information on population). The introduction of residential development in the project vicinity would intensify density and uses in the area. This could result in an increase in demand for services and subsequently an increase in response times and reduced level of service. Therefore, the proposed project could result in potentially significant impacts to fire protection services requiring mitigation.

Sites 1 through 9, located within the Grass Valley Sphere of Influence, would be required to pay development fees as follows: Site 1, \$0.28 to \$0.72 per square foot of development; Site 2, \$0.23 to \$0.45 per square foot of development; and Sites 4 through 9 \$0.22 to \$0.44 per square foot of development. Sites 10 through 13, located within the jurisdiction of the Penn Valley Fire Protection District, will be required to pay - one-time - into the new development fire impact fee program. In addition to the property taxes, the Penn Valley Fire Department District also imposes a Special Fire Suppression Benefit Assessment District and a Special Tax - Rescue. Although new developments increase the demand on existing fire and emergency services, as a result of the taxes paid by developers, each new development bridges the fire districts closer to additional fire stations, apparatus and equipment. The required fees are intended to cover the fees of that equipment. As such, the required

development fees, property tax, Special Assessment Fee and the Special Tax are intended to provide the means which allow the District to maintain the current level of service. In addition, as noted in Mitigation Measure 4.13-1a, future developments on all sites will be required to provide documentation ensuring adequate fire service response times. As such, payment into the required tax programs would reduce potential impacts related to adequate services times to less than significant.

Sites 14 through 18, located within the Higgins Fire Protection District would be required to pay into the 1980 development parcel fee of \$25.00. Currently this fee does not cover the cost of the increase in demand resulting from new developments. As Higgins Fire Protection District has been unsuccessful at passing measures to increase the development fee, existing services are strained and two stations have had to cut back to operating half time. However, they have been successful at fundraising to acquire equipment and supplies as well as are staffed with volunteer firefighters. It should be noted that the Station 21 serving project Sites 14 through 18 operates 24 hours per day, 7 days per week. As such, it is anticipated that these sites would be adequately served and impacts would be less than significant. In addition, as noted in Mitigation Measure 4.13-1a, future developments on all sites will be required to provide documentation ensuring adequate fire service response times.

All project sites would include a defensible space of 100 feet around the residential structures, as required by law, and would be required to implement Mitigation Measure 4.13-1b. As part of required vegetation management plans included in Mitigation Measure 4.13-1b, it is recommended that an area of 30 feet immediately surrounding the structures be maintained to reduce or eliminate ignition hazards presented by vegetation. Vegetation management for the remaining 70 feet (or to property line) will depend on the steepness of the final site designs and will also be included in the vegetation management plan. In summary, the proposed project would result in an increase in property taxes and sales taxes that would generally offset the increase in the cost of fire and emergency services required by the project. In addition, the project would be required to pay development impact fees to cover the incremental costs of the additional manpower, new equipment and infrastructure required for the proposed project. Implementation of Mitigation Measures 4.13-1a and 4.13-1b, which would require measures to provide adequate response times and vegetation fuel management, would reduce impacts to a less than significant level.

Emergency Water Supply System

As noted in Chapter XVI of the County of Nevada Land Use Development Code, all future multi-family developments on any of the project sites would be required to install a water supply system, as required in Section 10.301(c) of 1988 Uniform Fire Code. All emergency water to meet fire flow requirements is in addition to the domestic water source. Since the adoption of the Land Use Development Code, the State of California has adopted the 2010 California Fire Code, which is based on the 2009 International Fire Code (IFC). The IFC is a model code that regulates minimum fire safety requirements for new and existing buildings, facilities, storage and processes. The IFC is a design document and provides development guidelines including requiring that before one constructs a building, the site must be provided with an adequate water supply for fire-fighting operations. Section 501.3 *Construction Documents*, requires that construction documents for proposed fire apparatus access, location of fire lanes, security gates across fire apparatus access and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction. Fire flow requirements for buildings or portions of buildings and

facilities shall be determined by an approved method or Appendix B of the 2010 California Fire Code, Table B105.1 which establishes fire flow requirements depending on building square footage. Coordination with the local water agency will be required to ensure the demand of such flows can be served by existing water supplies. As such, coordination with the local water agency, through adherence to the 2010 California Fire Code, will ensure impacts will be less significant in this regard.

Police Protection/Sheriff Service

As previously mentioned, the proposed project would result in an increase in population of approximately 2,960 residents in Grass Valley and 2,438 residents in the County. The number of traffic accidents, auto thefts, burglaries, police reports, and similar incidents increases when new development occurs, resulting in greater demands on police protection and other services. As such, the proposed project could generate the need for additional police officers, dispatchers or new facilities.

Similar to fire protection services, and for all of the project sites, future developments would bring additional annual revenue in the form of increased local property taxes and sales taxes that would help offset the increased demand for police services by funding increases in police personnel, training and equipment. Furthermore, the project developer would be required to pay development impact fees which are intended to provide the means which allow the local police and sheriff to maintain the current level of service. As such, impacts are considered to be less than significant. Implementation of Mitigation Measure 4.13-1c, which would require the project to provide documentation noting adequate response times, would reduce impacts to less than significant.

Schools

The increase in multi-family residential uses on the proposed project sites would generate new students and subsequently an increase in demand on existing school facilities. Development within the proposed project areas would be subject to school impact fees in accordance with the provisions of SB 50. The mitigation fee set by the Grass Valley School District and Nevada Joint Union High School District is \$2.97 per square foot of living space for residential uses. Pursuant to Section 65995(3)(h) of the California Government Code (SB 50), "the payment of statutory fees is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use or development of real property" Therefore, with payment of statutory fees, school impacts would be considered less than significant.

Other Services and Facilities

The population increase from the proposed project would increase the demand for other services or facilities, such as public libraries, hospitals, or civic uses. The proposed project would increase the resident population of approximately 2,960 residents in Grass Valley and 2,438 residents in the County, which in turn would increase the demand for library services. The space standard for libraries in California is 0.5 square feet per capita.

Nevada County

As previously noted there are six public libraries throughout the County. However, based on the distance from the proposed project sites it is anticipated that only the Penn Valley Station and the Bear River Station would be utilized by the new residential units within

Penn Valley and Lake of the Pines; respectively. The proposed project would result in 1,090 new residents within Penn Valley Area and 1,348 new residents within the Lake of the Pines Area. The County requires a level of service standard of 300 feet of library space for each increase of 1,000 persons in county-wide population. Future development associated with the proposed project would be required to ensure the level of service standards for libraries is not exceeded. As such, the proposed project would result in less than significant impacts.

The increase in residents may increase the number of hospital visitors. The Sierra Nevada Memorial Hospital is a regional hospital serving approximately 78,518 people in western Nevada County. The incremental increase of 5,398 residents (i.e., approximately 6.9 percent) over a 10- to 20-year buildout would not result in a substantial increase in the use of hospital services. Additionally, the Sierra Nevada Memorial Hospital recently underwent renovations to provide expanded services, including a 15 million dollar diagnostic imaging and women's center (opened in the fall of 2006). Therefore, no new physical facilities associated with hospitals would be needed as a result of the proposed project, and no adverse physical impacts associated with the provision of new or altered hospital facilities would occur. Therefore, impacts related to health care facilities would be less than significant.

Grass Valley

The Grass Valley Library, Royce Branch (5,600 square feet) does not currently meet the library space standard of 6,500 square feet for the City (based on the California Department of Finance population projections of approximately 12,817 people). However, there are two libraries in Nevada City (located approximately five miles northeast of the City) that also serve Grass Valley, the Madelyn Helling County Library located at 980 Helling Way (15,000 square feet) and the Doris Foley Library for Historical Research located at 211 North Pine Street (5,324 square feet).

The 2,960 new residents within Sites 1 through 9 would require 1,480 square feet of library space (approximately 5.7 percent of the existing library space of approximately 25,924 square feet). Therefore, the incremental increase of 2,960 residents, over a 10- to 20-year buildout would not result in a substantial increase in the use of library services. The existing libraries would meet the proposed project's needs, as the libraries have sufficient space to meet the needs of the increased population. There are no planned or proposed libraries under construction at this time, and the additional demand from the proposed project would not result in the expansion of existing facilities or the construction of a new library. Therefore, impacts related to libraries would be less than significant.

Mitigation Measures:

The following mitigation measures apply to all sites:

- 4.13-1a Prior to Building Permit issuance, the project developer shall provide written documentation from the Fire Department ensuring adequate fire service response times to the project site.
- 4.13-1b Construction Plan applications (or as part of the annexation request for Sites 1-9) submitted for all sites shall include a vegetation fuel management plan, which addresses overall fuels management for achieving a reduction in wildland fire intensity, subject to review and approval of the Fire Department. The plan shall also address management of the vegetative fuels in those areas that may be considered environmentally sensitive.

- 4.13-1c Prior to Building Permit issuance, the project developer shall provide written documentation from the Police or Sheriff services ensuring adequate police response times.

Level of Significance After Mitigation: Less Than Significant Impact.

Wastewater

4.13-2 THE PROPOSED PROJECT COULD RESULT IN A DETERMINATION BY THE WASTEWATER TREATMENT PROVIDER THAT IT HAS INADEQUATE CAPACITY TO PROVIDE FOR THE PROJECT'S PROJECTED DEMAND IN ADDITION TO THE PROVIDER'S EXISTING COMMITMENTS.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Nevada County

The proposed project sites would be served by the Penn Valley WWTP (Sites 10 through 13), and Lake of the Pines WWTP (Sites 14 through 18) in the County. However, as previously noted the Penn Valley WWTP is currently operating under a Cease and Desist Order (CDO) from the CVRWQCB and pending State Revolving Fund loan to construct a pipeline from Penn Valley to the Lake Wildwood WWTP. As such, there is currently not enough sewer capacity to serve all of the proposed project areas. Table 4.13-1, *Sewer Availability*, breaks out each of the three zones showing connected, standby and unallocated EDUs. As noted in Table 4.13-1, there are approximately 915 standby equivalent dwelling units (EDUs) and 500 unallocated EDUs in those zones. It has been noted by the County that several projects are already approved or in the planning process in the Lake of the Pines area and will need the EDU allocation from Lake of the Pines in order for them to develop to their planned potential. County Sanitation staff estimate that the approved or planned projects will require approximately 500 to 604 EDUs to accommodate the build out of those projects. Therefore, the unallocated EDUs shown the Table 4.13-1 will likely be used for projects already approved. The County has established sewer capacity service requirements for development within their jurisdiction. Without proposed improvements to existing WWTPs there would not be sewer service available for the proposed project Sites 10 through 18 and the proposed project would result in potentially significant impact. However, with implementation of Mitigation Measure 4.13-2, impacts would be reduced to less than significant.

**Table 4.13-1
Sewer Availability**

Zone	Connected EDUs	Standby EDUs	Unallocated EDUs
Lake Wildwood	2,919	648	0
Lake of the Pines	2,057	156	500
Penn Valley	347	111	0
TOTAL	5,323	915	500

Source: Department of Public Works, Sanitation Division, 2009.

Grass Valley

Based on existing capacity of the City's WWTP and projects of similar size currently being processed through the City, upon annexation of Sites 1 through 9 into the City of Grass Valley, these sites would be served by the City's WWTP and would contribute a small portion of the overall increase in flows that would bring the WWTP to near the capacity. However, regardless of the added flow from the proposed project, the City's WWTP will need to be enlarged to handle future flows from throughout the City's system to meet the City's projected population in the Year 2020. The City has established sewer capacity service requirements for development within their jurisdiction. Without proposed improvements to the City's existing WWTP, there would not be sewer service available for the proposed project sites and the proposed project would result in potentially significant impact.

Mitigation Measure:

This mitigation measure applies to all sites:

- 4.13-2 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction (or as part of the annexation request for Sites 1-9) for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):

Provide written documentation that adequate sewer capacity is available for the proposed development. The project developer may provide written documentation that the wastewater treatment plant has been upgraded to increase capacity or a report from a registered civil engineer demonstrating that adequate capacity is available. If adequate sewer capacity does not exist, the developer will pay for WWTP upgrades to account for the additional effluent. The developer may develop a reimbursement agreement, if needed, to recuperate fair-share costs associated with other proposed developments nearby.

Level of Significance After Mitigation: Significant and Unavoidable. This impact remains significant because it is unknown what the capacity of the wastewater treatment facilities would be at the time of project construction. It is also unknown if completion of the required wastewater facility improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.

Water Supply

- 4.13-3 SUFFICIENT WATER SUPPLIES ARE AVAILABLE TO SERVE THE PROPOSED PROJECT FROM EXISTING ENTITLEMENTS AND RESOURCES; NO NEW OR EXPANDED ENTITLEMENTS WOULD BE REQUIRED.**

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

The proposed project area is located within the water service area of NID. Pursuant to SB 610, a WSA was prepared for the proposed project and is included as Appendix J. The WSA

was prepared based on information contained in the 2010 Urban Water Management Plan (UWMP) adopted by NID in June 2011.

The 2010 NID UWMP provides estimates of the water supply and water demand during normal, single-dry, and multiple-dry years. Tables 4.13-2 through 4.13-6 are based on the supply and demand comparison tables of the 2010 UWMP. Although the tables calculate a projected deficit in supplies during water shortage years, the quantified supplies do not include NID's supply entitlements to the Bear River and the South Yuba River. Also, the NID's water shortage contingency plan calls for mandatory reduction in water usage by its customers, which is not quantified in the UWMP supply and demand comparison tables.

Table 4.13-2 (UWMP Table 7-1)
Normal Year Water Supply and Demand Comparison, ac-ft/yr

	2010	2015	2020	2025	2030	2035
Supply totals	410,633	410,828	410,828	410,828	410,828	410,828
Demand totals	129,894	180,046	187,360	195,729	200,646	203,542
Supply Surplus	280,739	230,782	223,468	215,099	210,182	207,286

Table 4.13-3 (UWMP Table 7-2)
Single Dry Year Water Supply and Demand Comparison, ac-ft/yr

	2010	2015	2020	2025	2030	2035
Supply totals	183,113	183,113	183,113	183,113	183,113	183,113
Demand totals	129,894	180,046	187,360	195,729	200,646	203,542
Supply Surplus/Deficit	53,219	3,067	-4,247	-12,616	-17,533	-20,429

Table 4.13-4 (UWMP Table 7-3)
First Year of Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr

	2010	2015	2020	2025	2030	2035
Supply totals	255,439	255,439	255,439	255,439	255,439	255,439
Demand totals	129,894	180,046	187,360	195,729	200,646	203,542
Supply Surplus/Deficit	125,545	75,393	68,079	59,710	54,793	51,897

Table 4.13-5 (UWMP Table 7-4)
Second Year of Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr

	2010	2015	2020	2025	2030	2035
Supply totals	192,422	192,422	192,422	192,422	192,422	192,422
Demand totals	129,894	180,046	187,360	195,729	200,646	203,542
Supply Surplus/Deficit	62,528	12,376	5,062	-3,307	-8,224	-11,120

Table 4.13-6 (UWMP Table 7-5)
Third Year of Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr

	2010	2015	2020	2025	2030	2035
Supply totals	333,944	333,944	333,944	333,944	333,944	333,944
Demand totals	129,894	180,046	187,360	195,729	200,646	203,542
Supply Surplus/Deficit	204,050	153,898	146,584	138,215	133,298	130,402

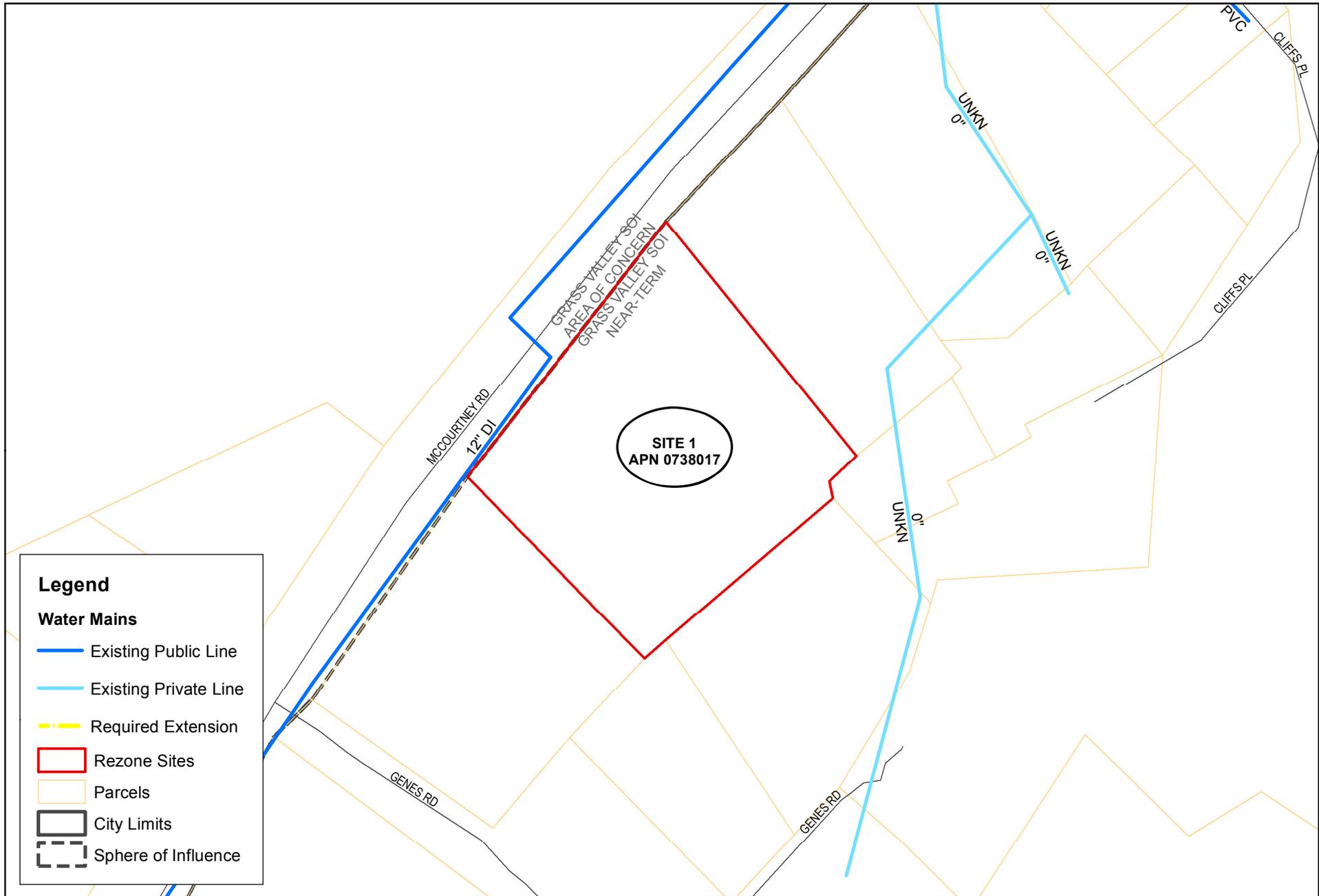
As stated previously, water shortages are projected to occur during single dry years and multiple dry years in the future because NID's quantified supply during single dry years and multiple dry years is projected to be less than demands during those years. However, the quantified supply in the 2010 UWMP does not include supply from the Bear River and the South Yuba River, NID is likely to receive in dry years. There is a high probability that with these additional supplies, NID would likely not have a supply deficit in single and multiple dry years. In addition, the demands shown do not include any demand reductions as a result of NID implementing their water shortage contingency plan. NID has a drought contingency plan in place to reduce demand up to 50 percent. Therefore, the UWMP projects sufficient reductions in demands, and increases in supplies from Bear River and South Yuba River, to mitigate for the calculated 17 percent supply deficit.

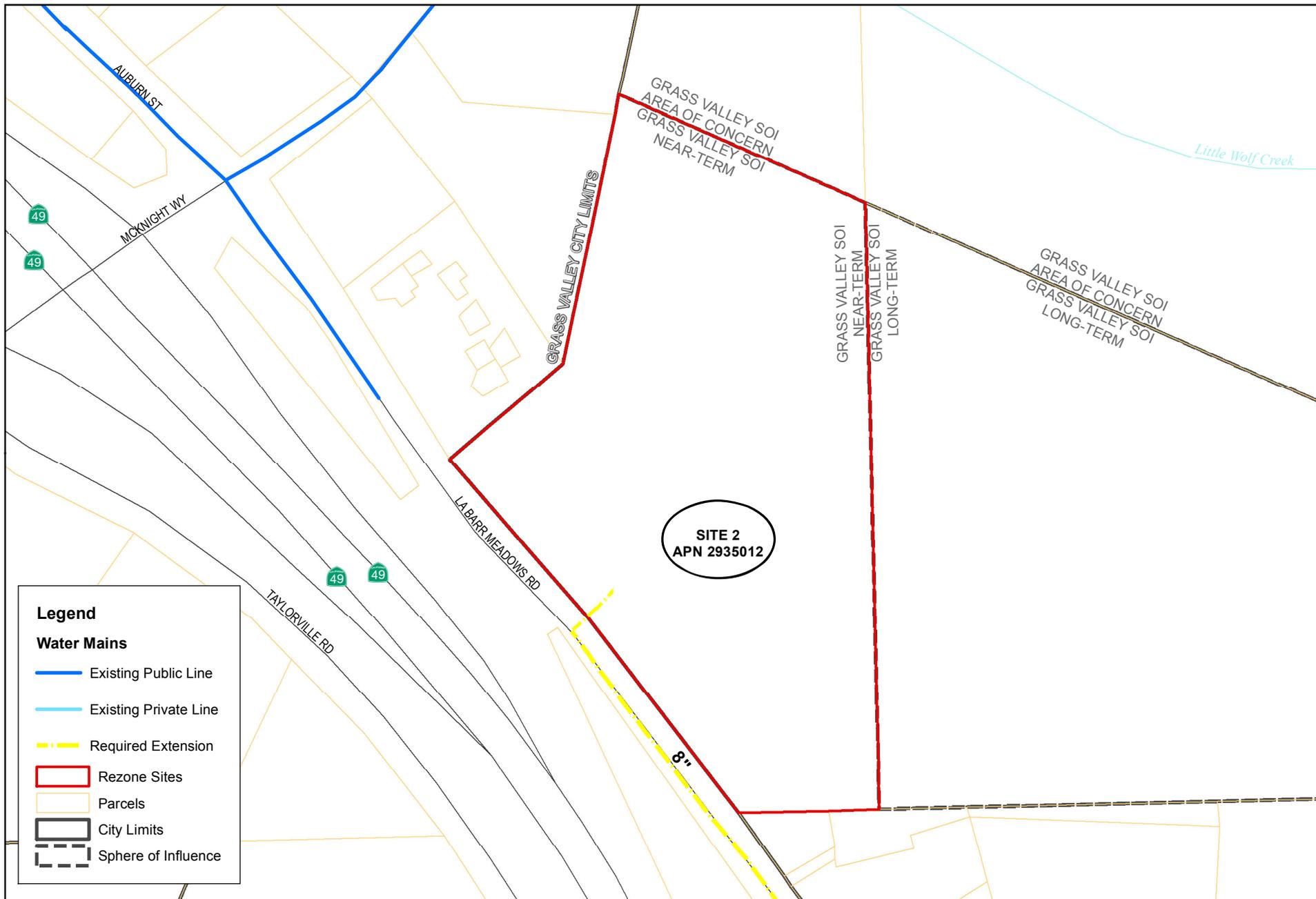
As noted in the WSA, the proposed Nevada County Housing Element Rezone Program has an estimated water demand of 1,235 acre-feet per year. The NID 2010 Urban Water Management Plan identifies future low-income housing projects with an estimated 3,099 acre-feet per year demand by 2015, and 4,346 acre-feet per year demand by 2035.

As NID's UWMP calculates a deficit in water supply sources excluding consideration of drought contingency measures and Bear River and South Yuba River entitlements, which are expected to make up for the deficit, and the low-income housing projects have been identified in the 2012 UWMP, NID determines that the Rezone Program is included in the 2010 UWMP and, therefore, sufficient water supplies are available to meet the estimated demands for project sites. Therefore, the project has a less than significant impact on water supply for all Sites 1 through 18.

With regard to existing water infrastructure, Figures 4.13-1 through 4.13-8 identify the existing NID water lines in relative to each site location. Sites 1 and 3 through 9 have existing water facilities within the existing streets that front these sites. Additional infrastructure is not required for these sites and potential impacts on existing water infrastructure systems are less than significant.

Development of Sites 2, and 10 through 18 would require new water infrastructure improvements to bring potable water to these sites. Water line extensions would be within existing roadways or right of ways. These improvements would have to be in place prior to construction on each of these sites. With unknown timing or enforcement mechanism for these improvements, a potentially significant impact would occur as a result of insufficient infrastructure.





Legend

Water Mains

- Existing Public Line
- Existing Private Line
- Required Extension

Rezone Sites

Parcels

City Limits

Sphere of Influence



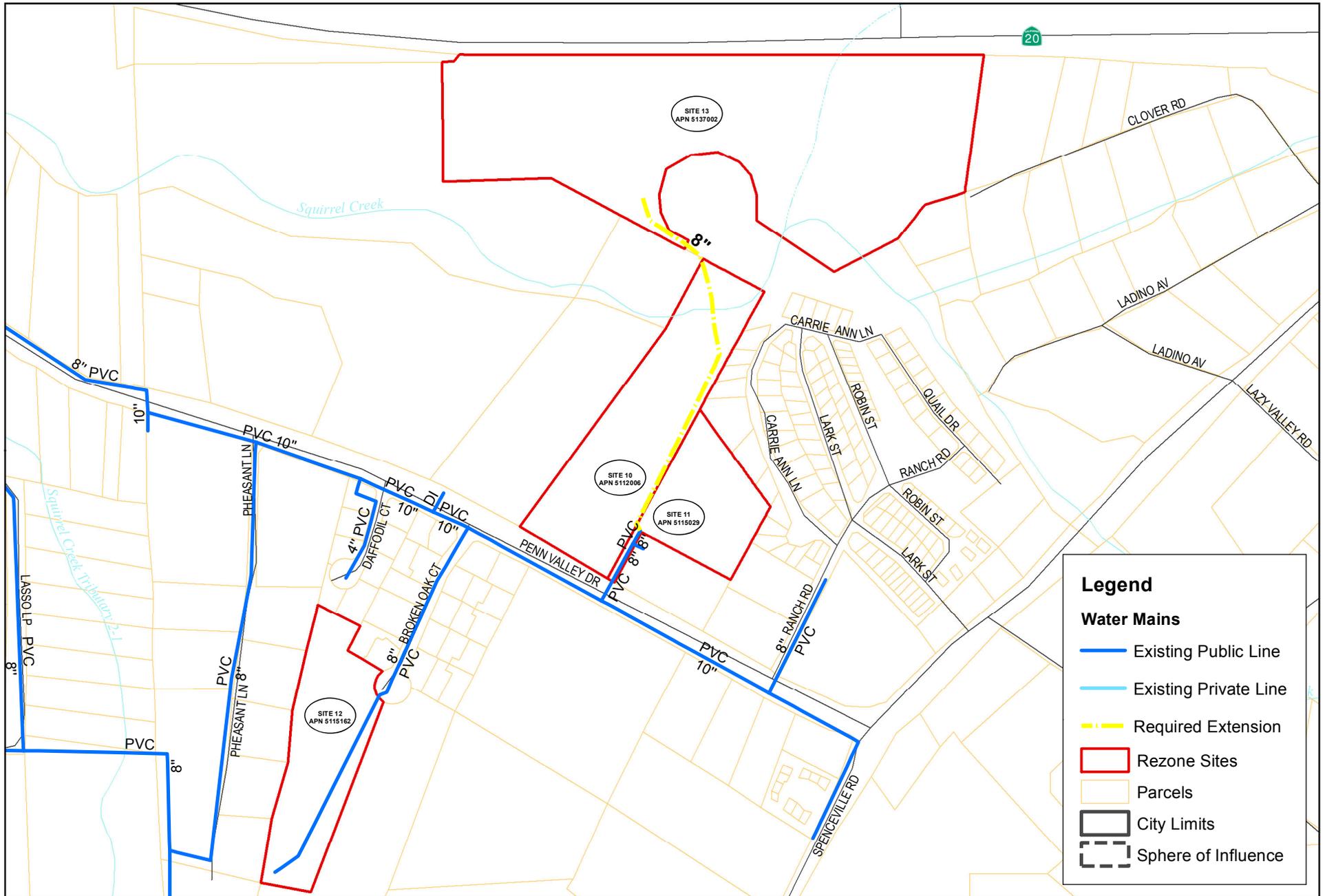
Source: Nevada County GIS 2013; ESRI 2013.

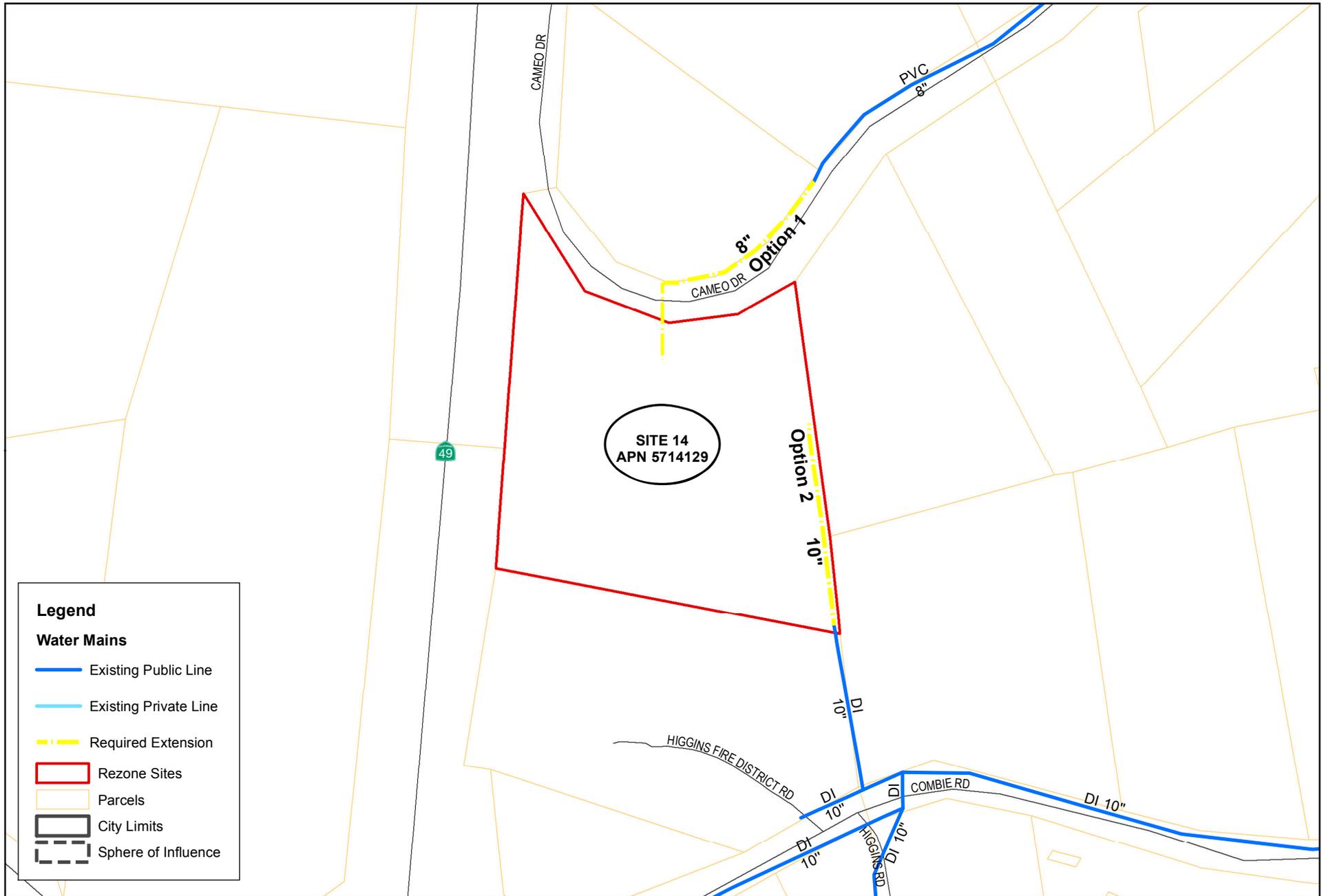
COUNTY OF NEVADA
2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

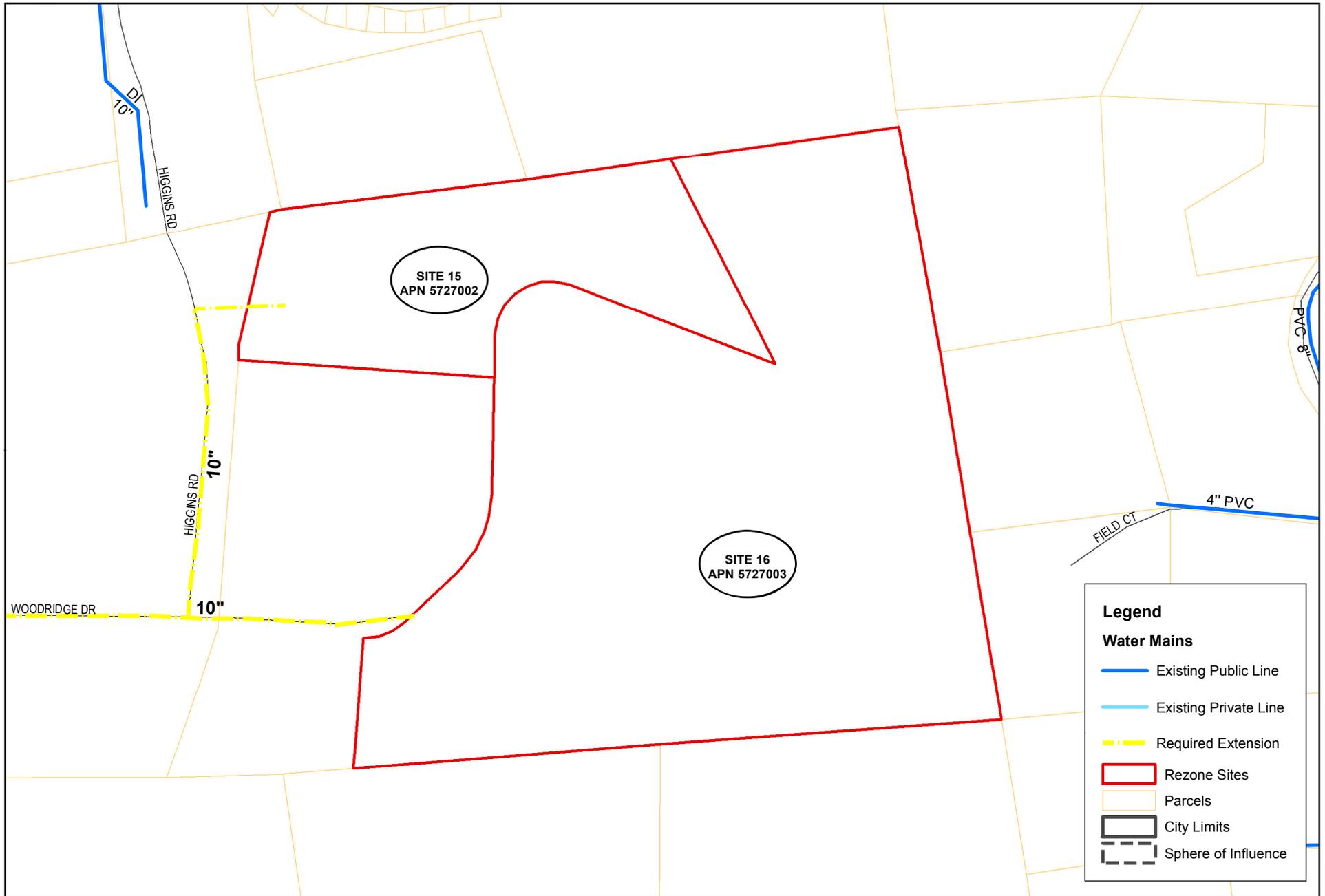
Site 2 - Water Utility Infrastructure

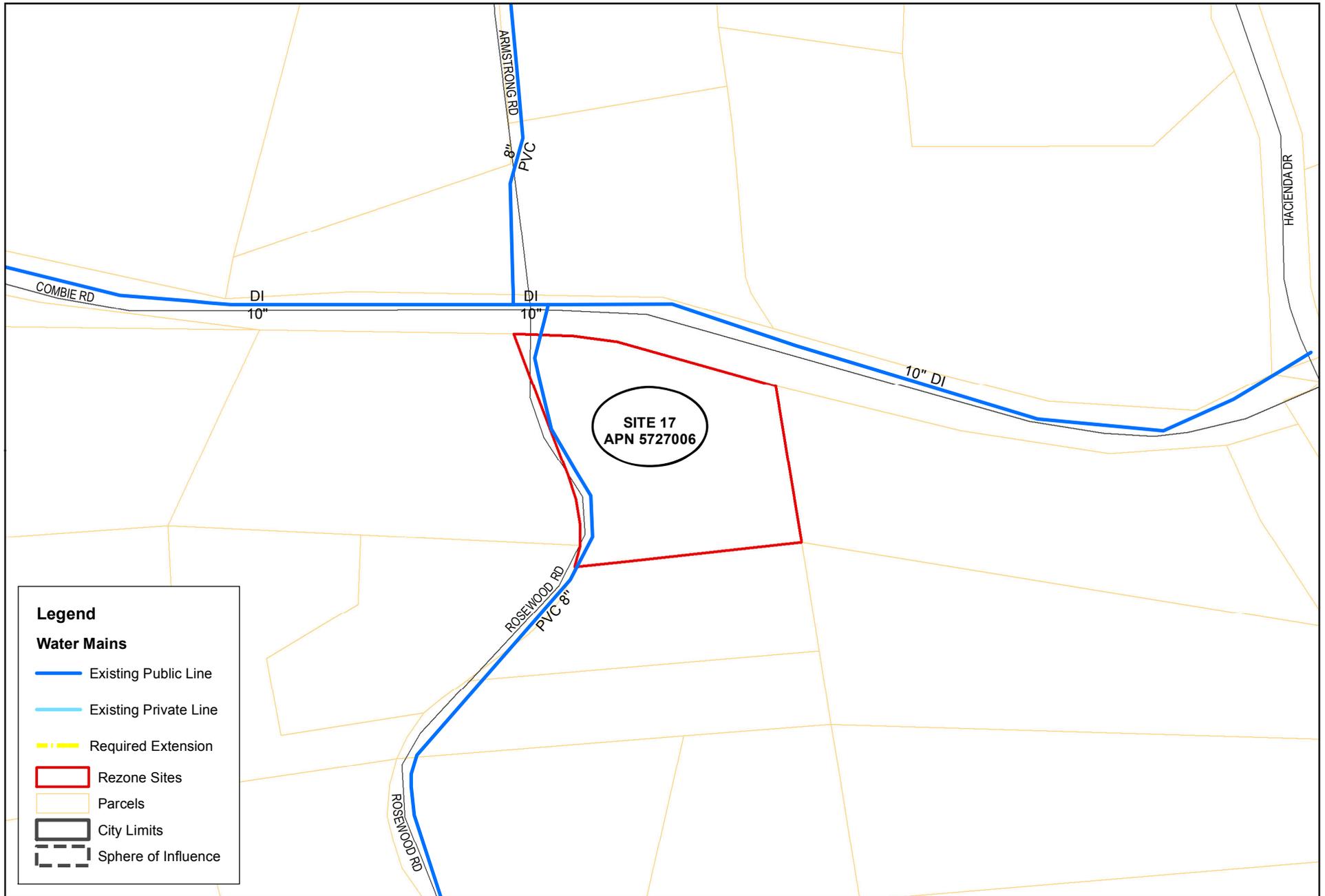
Figure 4.13-2

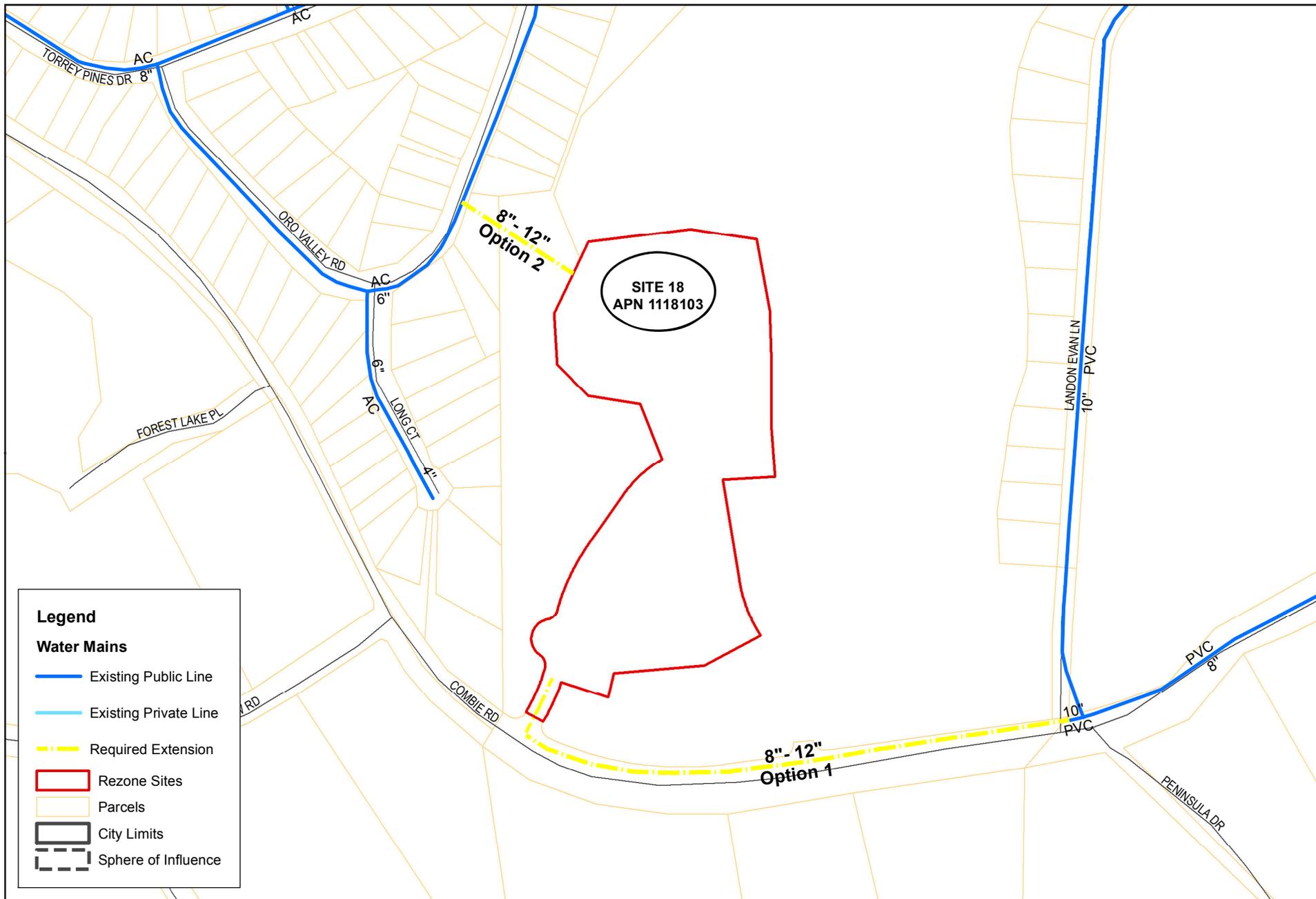












Mitigation Measures:

The following mitigation measure applies to all sites:

- 4.13-3 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction (or as part of the annexation request for Sites 1-9) for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):

Provide the County (or the City for Sites 1 through 9) with an approved set of improvement plans accepted by NID, which include the following:

- Quantification of anticipated water usage by parcel.
- A comprehensive water system design for distribution piping and connection to the existing NID distribution system.
- Appropriate pipe sizing to accommodate minimum fire flow water pressures (as determined by CAL FIRE, NID, and the HFPD).
- Identification of pipe sizing, pipe location, and the location of the tie-in with NID facilities.
- Provisions for easement, rights-of-way, and in-fee land to NID for water facilities.

Level of Significance After Mitigation: Significant and Unavoidable. This impact remains significant and unavoidable because it is unknown what the capacity of the potable water facilities would be at the time of project construction. It is also unknown if completion of the required water infrastructure improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.

Solid Waste

4.13-4 THE LANDFILL THAT WOULD SERVE THE PROPOSED PROJECT HAS SUFFICIENT PERMITTED CAPACITY TO ACCOMMODATE THE PROJECT'S SOLID WASTE DISPOSAL NEEDS. THE PROJECT WOULD COMPLY WITH FEDERAL, STATE AND LOCAL STATUES AND REGULATIONS RELATED TO SOLID WASTE.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact Analysis:

The California Integrated Waste Management Board (CIWMB) has collected solid waste generation rates from a variety of sources. The rates vary widely and present a broad range of potential estimated solid waste demands. Rates for multi-family units range from 3.6 to 8.6 pounds per unit per day. Based on these rates, the proposed project, at a 10- to 20-year buildout would generate between 9,630 and 23,005 pounds (4.82 to 11.5 tons) of waste per day. Table 4.13-7, *Estimated Solid Waste Generation*, summarizes the estimated waste generation for the proposed project.

**Table 4.13-7
 Estimated Solid Waste Generation**

Proposed Land Use	Units/Square Footage	Solid Waste Generation Rates	Estimated Solid Waste Generation			
Multi-Family Dwelling	2,675 Units	3.6 to 8.6 pounds/unit/day	9,630	to	23,005	pounds/day

Source: California Department of Resources Recycling and Recovery (CalRecycle) website, accessed January 22, 2013, <http://www.calrecycle.ca.gov/wastechar/wastegenrates>.

The project’s proportion of solid waste disposal would not be substantial relative to the daily disposal rate of 5,000 tons at the Lockwood Regional Landfill.⁶ Therefore, the Lockwood Regional Landfill would have sufficient capacity to receive the solid waste that would be generated by the proposed project.

As previously stated, AB 939 requires cities and counties in California to implement recycling programs, reduce refuse at the source, and compost waste to achieve the established 50 percent diversion of solid waste from landfills. Several recycling programs help the City and County meet their requirements under AB 939. Nevada County has an adopted Countywide Source Reduction and Recycling Element (SRRE) that establishes goals and methodologies for compliance with AB 939. On April 23, 2002, the County adopted the “Green Procurement and Sustainable Practices Policy” to encourage the reduction of solid waste entering landfill sites. This policy requires waste prevention, recycling, market development, and use of recycled/recyclable materials through lease agreements, contractual relationships and purchasing practices with vendors, contractors, businesses, and other public and governmental agencies. In addition, Nevada County Department of Sanitation (formerly the Department of Transportation and Sanitation) recently received a \$100,000 grant from the CIWMB to fund the program Nevada County Recycles, which is dedicated to educating schools, businesses, and individuals about recycling.

The City of Grass Valley Solid Waste/Recyclable Materials Storage Ordinance, adopted on April 10, 2007, requires developers for certain projects, such as new construction of multi-family and nonresidential developments, to provide solid waste and recyclables storage areas in the number, dimensions and types required by the department or review authority. Additional storage areas may be required, as deemed necessary.

All future developments on the proposed project sites would be required to participate in the above-mentioned programs and comply with City and County recycling and waste diversion ordinances. This would entail submitting a plan to divert at least 50 percent of the construction waste generated by the project from landfill disposal as well as incorporating recycling collection and storage areas into the project design. Doing so would avoid significant solid waste disposal impacts related to construction and operation of the proposed project.

Mitigation Measures: No mitigation required.

Level of Significance After Mitigation: Not applicable.

⁶ Lockwood Regional Landfill, Personal Communication with Chris Thomas, July 17, 2013.

4.14 RECREATION

This section evaluates potential recreation impacts that could result from future development within the proposed project areas. The analysis examines the regional and local park facilities and identifies direct and indirect impacts related to the proposed project.

4.14.1 ENVIRONMENTAL SETTING

REGIONAL

Nevada County is known for a wide variety of landscapes, scenic resources, and unique natural features, which provide high aesthetic resources for recreation. Recreational opportunities within Western Nevada County are varied, ranging from public parks with intensively used active recreational facilities, to vast tracts of forestlands, which provide a natural environment for passive recreation and nature appreciation.

Nevada County owns 80 acres of land at Western Gateway Park in Penn Valley and leases it to the recreation and park district serving that area. The County also owns and operates Tobiassen Park at the Eric Rood Administrative Center and the Veterans Buildings in Grass Valley and Nevada City. The County assisted in acquiring 11 acres of parkland in the San Juan Ridge area which is now owned and operated by the park and recreation district serving that area. There are several regional recreational resources within Western Nevada County, including the Tahoe National Forest, the South Yuba River State Park, Malakoff Diggins State Historic Park, the Empire Mine State Park, and the Nevada County Fairgrounds. From near the western/eastern Nevada County dividing line, the Tahoe National Forest extends eastward from the Sierra Nevada foothills across the Sierra crest to the California state line. It provides opportunities to hike, camp, swim, hunt, sight see, ski and snowboard, rock climb and bicycle. The South Yuba River State Park encompasses 20 miles in the South Yuba River Canyon. Visitors can enjoy swimming, hiking, panning for gold, exploring the trails leading to historic mining sites and docent-led history, nature and gold-panning tours. About 30 miles north of Grass Valley, Malakoff Diggins State Historic Park is the site of California's largest "hydraulic" mine. It contains a museum, the deserted mining town of North Bloomfield and picnic facilities. The visitor center has exhibits on life in the old mining town of North Bloomfield and visitors can pan for gold on Humbug Creek. Located adjacent to the City of Grass Valley (City), the Empire Mine State Historic Park is the site of one of the oldest, largest, deepest, longest and richest gold mines in California. The park contains many of the mine's buildings, the owner's home and restored gardens, as well as the entrance to 367 miles of abandoned and flooded mine shafts. The park consists of forested backcountry and eight miles of trails.

There are several recreation providers in Western Nevada County offering passive recreation opportunities and managing large open space lands for residents and visitors. Some major entities include the U.S. Forest Service, the California Department of Parks and Recreation, the California Department of Fish and Wildlife, the Bureau of Land Management (BLM), the Nevada Irrigation District, City of Grass Valley, City of Nevada City, the Army Corps of Engineers, and Pacific Gas and Electric Company. In addition, there are three recreation and park districts: Western Gateway, Bear River, and Oak Tree. There are also a number of non-profit organizations and user groups that provide passive recreation opportunities and/or assist in managing recreation facilities owned by the major entities mentioned above. In addition to the public lands, Nevada County supports a variety of private and commercial

recreational facilities. These include ski areas and resorts, golf courses, community buildings, and campgrounds.

CITY OF GRASS VALLEY

The Grass Valley parks and recreation system is comprised of approximately 108 acres of City park lands, and no formalized trails. There are seven developed parks (Dow Alexander, Elizabeth Daniels, Glenn Jones, Minnie, Memorial, Mautino and Condon) and one undeveloped park (Morgan Ranch) within City limits. Dow Alexander, Elizabeth Daniels and Glenn Jones are all pocket parks. Dow Alexander Park is 0.25 acres and has a children's play area. Amenities include two picnic tables and a bench. The Elizabeth Daniels Park is a 0.16-acre Urban Plaza with a rest area for downtown visitors. It is equipped with restrooms and two picnic tables with awnings. Glenn Jones Park is two acres. It is located next to the Pelton Wheel Mining Museum along Wolf Creek. The park is equipped with six picnic tables. Minnie and Morgan Ranch Parks are both neighborhood parks. The two-acre Minnie Park is developed with a children's playground containing swings, a climber, other play equipment and a large grassy area. Amenities include two restrooms, three picnic tables and two benches. The 4.08-acre Morgan Ranch Park is not developed at this time. Memorial and Mautino Parks are both community parks. Memorial Park consists of 7.6 acres developed with a swimming pool, tennis courts, ball field, group picnic area, Memorial Club House, Recreation Annex, Scout Lodge and children's playground. The park is equipped with five picnic tables and three benches. Mautino Park is 12.9 acres and developed with tennis courts, a soccer field, basketball courts, a playground and picnic tables. Condon Park is an 80-acre regional park with a disc golf course, skate park, dog park, bocce ball courts, baseball fields, walking trails, arboretum, reception hall, and two group BBQ areas and individual picnic sites.

Hennessy School and Sierra College within City limits and several local schools within the City's Planning Area, but outside City limits (Scotten Elementary School, Lyman Gilmore Middle School and Nevada Union High School), provide approximately 24 acres of additional recreational space, including athletic fields, tennis courts, swimming pools and gymnasiums. Additionally, there are several privately owned athletic clubs, and a privately operated driving range, golf course and country club within City limits.

4.14.2 REGULATORY SETTING

LOCAL FRAMEWORK

Nevada County General Plan

The Nevada County General Plan Recreation Element includes goals, objectives and policies with respect to recreational resources, as identified below.

- | | |
|---------------|---|
| Goal 5.1 | Provide a variety of active and passive recreational opportunities. |
| Objective 5.1 | Provide a diverse range of recreational opportunities at a regional, district, community, and neighborhood level. |
| Policy 5.4 | The provision of linear parks or greenways within Community Regions is encouraged to provide linkages between park facilities and from residential areas to parks. Inclusion of bikeways and pathways should be considered for all linear parks and greenways, and where possible |

- greenways should be utilized to link Community Regions to the County-wide trail system.
- Objective 5.2 Acquire, develop and maintain park lands to serve the needs of Nevada County.
- Policy 5.5 The County shall base park and recreation facility planning on the following level of service standard for County park land to provide regional parks serving both Community Regions and Rural Regions:
- 3.0 acres of park land for each increase of 1,000 persons in county-wide population.
- Objective 5.4 Implement funding strategies for the acquisition, development, and maintenance of park and recreation facilities.
- Policy 5.9 Park and recreation facilities shall be included in the County's comprehensive impact fee program. The comprehensive development fees shall be in amounts sufficient to offset the costs identified as the appropriate share of the park and recreation facility improvements necessary to serve future development. The comprehensive development fee structure shall ensure that future growth fully mitigates its direct and cumulative impacts upon the County.
- Objective 5.6 Implement a comprehensive, and where possible integrated, county-wide trail system.

Western Nevada County Non-Motorized Recreational Trails Master Plan

The Nevada County Planning Department developed the Western Nevada County Non-Motorized Recreational Trails Master Plan to guide the review of discretionary projects for new development proposals in Western Nevada County. This plan is intended to be a tool for the Planning Department and decision-makers to work with developers to provide recreational trails consistent with a regional system. The primary components of the Plan include the location of existing trails as well as gaps in the regional trail system, goals and policies, design guidelines for trail development, and the regional trail system implementation programs. Those goals and polices included in the plan and applicable to the proposed project are identified below.

- Goal 1: Provide a wide-range of safe, convenient, and enjoyable recreational trail opportunities for multiple non-motorized users.
- Policy 1.5 Encourage the development of recreational trails that are accessible to physically challenged individuals.
- Goal 2: Provide a recreational trail system that connects or provides access to recreational, educational, natural, cultural, and historical resources.
- Goal 6: Provide a uniform framework to assist decision-makers when evaluating new development proposals to provide recreational trails in Western Nevada County.
- Policy 6.1 Review all discretionary projects for opportunities to obtain dedications or other legal land entitlements to implement the recreational trails system consistent with connectivity routes identified on the Technical Working Plan Map.

- Policy 6.2 Review all discretionary projects for opportunities to provide recreational trails, where appropriate and in a manner proportional to the size, type, and intensity of the development or use proposed.
- Policy 6.5 Evaluate all discretionary projects for accessible trail opportunities, and where topography, sensitive resources, and other site constraints do not preclude construction of accessible features, trails are encouraged to be designed to meet accessibility standards.

Nevada County Development Code/Recreation Mitigation Funding Program

The Nevada County Recreation Mitigation Funding Program is a competitive grant program managed by the Nevada County Planning Department based on development impact mitigation fees for recreation collected in the Grass Valley/Nevada City and Twin Ridges Benefit Zones. These recreation fees are collected pursuant to Section 1.2 (Recreation Mitigation Fees for the Unincorporated Areas of Nevada County) of Chapter 9 of the Nevada County Land Use and Development Code. Recreation fees are also collected in the Western Gateway and Bear River Benefit Zones and passed through to the recreation and park districts serving those areas. In addition to recreation fees, the dedication of parkland for subdivisions containing more than 50 parcels is required pursuant to Section 1.3 (Quimby Act Dedications of Land and Fees In-Lieu of Dedications) of Chapter 9 of the Nevada County Land Use and Development Code.

This funding is intended for capital improvements only and cannot be used for salaries, routine operation and maintenance costs, or costs attributable to existing deficiencies in public facilities. The following types of projects are eligible for recreation funding provided that they are consistent with the Capital Improvement Expenditure Plan (CIEP) adopted for the applicable Benefit Zone: acquisition of new parklands, creation of a new recreation facility primarily open for public use, and significant expansion of the capacity or availability of an existing recreation facility primarily open for full and public use at low or no cost. The following types of entities are eligible to submit a proposal for use of recreation mitigation funding provided that their capital improvement project is located within the boundaries of the Grass Valley/Nevada City or Twin Ridges Benefit Zones: County, Cities, non-profit organizations, and other municipal public corporations with recreation facilities primarily open for public use.

City of Grass Valley 2020 General Plan

The City of Grass Valley 2020 General Plan (2020 General Plan) Recreation Element includes several goals, objectives and policies with respect to recreational resources, as identified below.

- Goal 1-RG Allow for expanded and diverse recreational programs, areas and opportunities.
- Objective 4-RO Assurance that an adequate amount of parklands are set aside proportionate to needs and growth.
- Goal 2-RG Facilitate community cultural opportunities.
- Objective 6-RO Establishment of general-purpose community gathering places and facilities.

Policy 1-RP Provide parks and open spaces of different sizes and types to respond to the needs of a diverse population, including trails for pedestrian and equestrian use, bicycle pathways, linear parkways and park-like natural areas.

City of Grass Valley Park and Recreation Master Plan

The Grass Valley Park and Recreation Master Plan describes how the City will strive to provide park and recreation opportunities for residents over the next 20 years. The purpose of the plan is to establish policy, set standards, identify and prioritize capital investments, and to address operational and fiscal issues regarding park and recreation facilities and programs in Grass Valley.

The Park and Recreation Master Plan Map identifies existing and planned parks within and on the outskirts of the City of Grass Valley. The plan describes a neighborhood or pocket park as a local park within biking and walking distance of users that can be co-located with an elementary school. A community park, as described by the plan, provides active and passive recreational opportunities for all City and regional residents, and accommodates large group activities. They often include key natural resources such as lakes, streams, or other attractions. The proposed neighborhood and community park locations identified by the plan are not specific. Rather, the plan generally locates them in areas where park facilities do not exist. According to the plan, trails can consist of either pedestrian-only, soft-surfaced paths that are four to six feet wide or multi-use, hard-surfaced paths that are eight to ten feet wide. All trails would be separated from motor vehicle traffic by open space or a barrier, and their routes may be aligned with or independent of the street right-of-way. Multi-use trails are often located along greenways.

The plan identifies a trail connecting with the County of Nevada Trail Plan near proposed project Site 1. In addition, an existing trail along Brunswick Road, traversing Sites 8 and 9 from Sites 3, 5, and 6 is noted in the plan. A future community park is identified approximately one-quarter mile southeast from Sites 3 through 9, east of Brunswick Road and North of Idaho Maryland Road.

Park and Recreational Facility Standards

The availability of park and recreation facilities and their ability to meet the recreational needs of the community is usually measured by facility standards. These standards are expressed quantitatively by the number of facilities needed to serve a certain number of residents (e.g., 5-8 acres of community parks per 1,000 population, etc). The Park and Recreation Master Plan sets park and facility standards for Grass Valley as shown in Table 4.14-1, *Park Standards for Grass Valley*. The standards are set using an average of the standards from example communities.

**Table 4.14-1
 Park Standards for Grass Valley**

Park Type	Standard (acres/1,000 population)
Urban Plaza	No Standard
Pocket Parks	.25 - .5 acres per 1,000
Neighborhood Park	1-2 acres per 1,000
Community Park	5-8 acres per 1,000
Regional Park	5-10 acres per 1,000
Trails	1 system per region
Multi-Use Bicycle/Pedestrian Path	1 system per region

Source: City of Grass Valley Park and Recreation Master Plan

City of Grass Valley Development Code

Section 17.86.030 of the Grass Valley Development Code (Park Land Dedications and Fees) provides for land dedication for parks and recreation, and for in lieu fees through which residential developments might facilitate park land acquisition. The standard for park and recreation dedications or in lieu fees, established under provisions of the “Quimby Act” (Section 66477 of the State Government Code), is a maximum of five acres per 1,000 population.

4.14.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact on recreation if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment

POTENTIAL IMPACTS AND MITIGATION MEASURES

Physical Deterioration of Recreational Facilities

4.14-1 THE PROPOSED PROJECT COULD INCREASE THE USE OF EXISTING NEIGHBORHOOD AND REGIONAL PARKS OR OTHER RECREATIONAL FACILITIES.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Nevada County owns few recreation lands and currently only operates three recreation facilities in Western Nevada County. The County’s primary focus is on planning for and facilitating the provision of park and recreation services (facilities and programs) throughout the County. Therefore, the County relies on government and non-governmental entities that own, plan, or manage recreation resources in Nevada County. However, the County does collect development impact fees for recreation and distributes those fees to existing park and

recreation districts or eligible recreation providers through a competitive grant program to enhance recreational opportunities.

Through build-out in 10 to 20 years, new residential development resulting from implementation of the proposed project may increase the use of existing neighborhood and regional parks or other existing recreational facilities by new residents such that substantial physical deterioration of the facility would occur or be accelerated. Development within the proposed project site areas would result in approximately 1,480 new high-density residential units within the Grass Valley Sphere of Influence and 1,201 new high-density residential units within the unincorporated areas of Nevada County. Based on the 2012 DOF estimate of 2.00 persons per household for Grass Valley and 2.03 persons per household for Nevada County, implementation of the proposed project would result in an increase in population of approximately 2,960 residents in Grass Valley and 2,438 residents in the County in 10 to 20 years. This additional population would increase the demand for park and recreational facilities in the County and City, collectively, potentially accelerating or resulting in their physical deterioration.

The proposed project does not identify the construction of trails, or community or regional parks to alleviate the increased demand on existing facilities. Therefore, the project has the potential to increase the demand for existing community and regional parks in the County or City, which could accelerate or result in their physical deterioration. To ensure that the proposed project meets the County's and City's public parkland requirements and mitigates this potentially significant impact, Mitigation Measure 4.14-1 would be implemented.

Mitigation Measure:

The following mitigation measure applies to all sites.

- 4.14-1 Prior to approval of a Site Plan, grading plan, or any permit authorizing construction for a property within the RH Combining District, the project developer shall to the satisfaction of the Director of the County Planning Department (or City of Grass Valley Planning Department for Sites 1-9):

Demonstrate that the proposed development is consistent with the County's Western Nevada County Non-motorized Recreational Trails Master Plan and pay recreation mitigation fees in an amount established by the County. For projects located within the City of Grass Valley SOI, the developer shall provide for community and regional parks consistent with the City's Park and Recreation Master Plan or pay an in-lieu fee in an amount established by the City.

Level of Significance After Mitigation: Less Than Significant Impact

Construction or Expansion of Recreational Facilities

- 4.14-2 THE PROPOSED PROJECT WOULD NOT INCLUDE THE CONSTRUCTION OF RECREATIONAL FACILITIES THAT MIGHT HAVE AN ADVERSE EFFECT ON THE ENVIRONMENT.***

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact Analysis

The proposed project does not include the construction of recreational facilities; however, implementation of the proposed project would result in an increase in demand on existing recreational resources.

Based on the level of service standard ratios for regional parks to population increase in the County, future development of the proposed project sites would require the creation of 7.3 acres of parkland in the County (see Policy 5.5). As projects are developed in the City of Grass Valley Sphere of Influence, inventories of existing parklands will be required to determine if the level of service standards identified in the Park and Recreation Master Plan will require future developments to construct new facilities. As such, in order to meet the needs of new growth the proposed project could indirectly result in the construction of new facilities through the inclusion of a park in future development plans or through the construction of parks which utilized fees paid by the developer of the proposed project sites from either the County's or City's recreation fee payment program. However, since the proposed project would not directly include the construction of recreation facilities, and the future construction of recreation facilities would require separate environmental review, impacts associated with the construction of additional recreational facilities would be considered less than significant.

Mitigation Measures: No mitigation required.

Level of Significance After Mitigation: Not Applicable.

4.15 TRANSPORTATION AND TRAFFIC

This section evaluates the potential impacts of the proposed project in terms of traffic and circulation on Nevada County roadways and intersections. The traffic generated by the project would travel on California Department of Transportation (Caltrans), County of Nevada (County), and City of Grass Valley (City) roadways.

The following scenarios were evaluated to provide a baseline for determining project-related impacts:

- **Existing Conditions:** Existing Conditions analyzes Current Year 2012 traffic volumes within the study area.
- **Existing Plus Background Projects with Current General Plan Land Use Designation Conditions:** Existing Plus Background Projects Conditions include existing traffic plus approved projects within Nevada County and the City of Grass Valley plus traffic associated with buildout of the project sites using the current General Plan land use designations.
- **Cumulative Without Project Conditions:** Cumulative Without Project Conditions include traffic volumes forecast using the Nevada County Transportation Commission and City of Grass Valley Travel Demand models for the year 2030 with current General Plan land use designations.

In order to determine the level of the project impact at each of the study locations, an analysis was performed with the project-generated trips added to the baseline conditions. The following scenarios were evaluated:

- **Existing Plus Background Projects Plus Project Conditions:** Existing Plus Background Projects Plus Project conditions include existing traffic plus traffic generated by approved projects within the vicinity of the project sites (baseline) and the addition traffic associated with buildout of the project rezone sites using the Project land under the proposed Housing Element Rezone program land use designation amendments.
- **Cumulative With Project Conditions:** Cumulative With Project Conditions include cumulative traffic volumes (baseline) and project generated traffic volumes.

4.15.1 EXISTING ENVIRONMENTAL SETTING

A description of the project sites and the roadway network providing access and circulation to the project site is included below. This analysis is organized into three primary study areas that encompass the eighteen project sites. The three study areas include: the City of Grass Valley Sphere of Influence (SOI) study area, the Penn Valley study area and the Lake of the Pines study area.

Grass Valley Sphere of Influence Area Sites

Site 1

Site 1 is located in the City of Grass Valley SOI area on McCourtney Road south of the intersection of McCourtney Road and Personeni Drive. Regional access to Site 1 is provided by SR 20 from the west, SR 49 and McCourtney Road from the north and south. Site 1 is

currently vacant, and existing site access is provided via a driveway to McCourtney Road. The following roadways in proximity to Site 1 were analyzed in this EIR:

SR 20

SR 20 is a west-east state highway that runs from SR 49 in the City of Grass Valley in the east to the Yuba County line in the west and is accessible from the project site via ramps on McCourtney Road. SR 20 is a four-lane roadway between SR 49 and Brighton Street and transitions to a two-lane facility west of the Brighton Street overpass. The posted speed limit on SR 20 is 65 miles per hour on the four-lane portion west of Penn Valley. SR 20 connects the City of Grass Valley to other cities to the west and north, including Yuba City and Nevada City.

McCourtney Road

McCourtney Road is a two-lane north-south major collector originating at SR 20 to the north. It provides access from SR 20 to residential and commercial development on Brighton Street, to the Nevada County Fairgrounds, and to the rural areas south of the City of Grass Valley. The posted speed limit on McCourtney Road is 35 miles per hour. Site 1 is located on the east side of McCourtney Road.

Site 2

Site 2 is a vacant site located south of the City of Grass Valley SOI area on the east side of La Barr Meadows Road, approximately 600 feet to the south of the intersection of La Barr Meadows Road / Auburn Street and McKnight Way. Regional access to Site 2 is provided from SR 49 to the north and south, SR 20 to the west and Empire Street to the east. The site is currently vacant and does not have an established driveway access onto La Barr Meadows Road. The following roadways in the area of Site 2 were analyzed in the EIR:

SR 49

SR 49 is a north-south state highway accessible from the project site via the ramps at McKnight Way. SR 49 connects the City of Grass Valley and Nevada City in the north to other cities to the south, including the Lake of the Pines Community and Auburn. In the vicinity of Site 2, SR 49 is a four-lane highway with a grade-separated interchange at McKnight Way. The posted speed limit near the project site is 60 miles per hour.

McKnight Way

McKnight Way is a short east-west arterial that primarily serves as an interchange to SR 49. It provides access to the retail and commercial uses near the highway. McKnight Way is a four-lane overcrossing at SR 49, and a two-lane roadway on the east and west sides of SR 49.

La Barr Meadows Road

La Barr Meadows Road is predominantly a north-south, two-lane arterial roadway along the east side of SR 49. The speed limit on La Barr Meadows Road varies from 35 to 45 miles per hour. North of McKnight Way, La Barr Meadows Road is named South Auburn Street. Site 2 is located along the east side of La Barr Meadows Road.

South Auburn Street

South Auburn Street is a north-south, two-lane arterial roadway north of McKnight Way that provides access to the City of Grass Valley from Site 2. South of McKnight Way, the roadway is named La Barr Meadows Road. The posted speed limit on South Auburn Street is 35 miles per hour.

Sites 3, 4, 5, 6 & 9

Sites 3, 4, 5, 6 and 9 form a contiguous parcel located in the northeast Grass Valley SOI area on the west side of Brunswick Road. The sites are located approximately ½ mile east of the SR 20/49 interchange at Brunswick Road and ½ mile north of the intersection of Brunswick Road and Idaho-Maryland Road. The site currently consists of a single-family home with driveway access via Triple Crown Drive to Brunswick Road. Regional access to the project area is provided by SR 20 from the west, SR 49 from the north and south, and Colfax Highway (Highway 174) from the southeast.

Sites 7 & 8

Sites 7 & 8 form a contiguous parcel located in the northeast Grass Valley SOI area on the east side of Brunswick Road directly across from Sites 3-6 and 9. The sites are located approximately ½ mile east of the SR 20/49 interchange at Brunswick Road and ½ mile north of the intersection of Brunswick Road and Idaho-Maryland Road. The site currently consists of multiple single-family homes with access to Brunswick Road provided via Bubbling Wells Road / Town Talk Road. Regional access to the project area is provided by SR 20 from the west, SR 49 from the north and south, and Colfax Highway (Highway 174) from the southeast. The following roadways in the area of Sites 3-9 were analyzed in the EIR:

SR 20-49

SR 20-49 in Grass Valley is the combined highways of east-west SR 49 and north-south SR 20. In the vicinity of the project, SR 20-49 is a four-lane facility with various access interchanges in the City. In the project vicinity, access to the freeway is from Brunswick Road and Idaho-Maryland Road. The posted speed limit on SR 20-49 is 55 miles per hour.

Brunswick Road

Brunswick Road is a north-south minor arterial that connects East Main Street/Nevada City Highway in the north to SR 174 in the south. The facility is four lanes near SR 20-49 and drops to two lanes near Old Tunnel Road in the vicinity of the project area. The posted speed limit along Brunswick Road ranges from 35 miles per hour near SR 20-49 to 50 miles per hour near the project area. The roadway has two southbound lanes between Idaho-Maryland Road and Whispering Pines Road. Sites 3 – 9 are located on Brunswick Road between Idaho-Maryland Road and Old Tunnel Road.

Idaho-Maryland Road

Idaho-Maryland Road is a two-lane collector east of Centennial Drive and a two-lane arterial west of Centennial Drive that connects SR 20-49 in the west to Brunswick Road. The intersection with Brunswick Road restricts the eastbound left and eastbound through movements and the westbound through movements. Vehicles traveling eastbound destined for points east of Grass Valley must use Centennial Drive and Whispering Pines Lanes to access Idaho-Maryland Road east of Brunswick Road. The posted speed limit along Idaho-Maryland Road varies from 30 miles per hour from the East Main Street / Idaho-Maryland Road roundabout to Railroad, and 35 miles per hour from Railroad to Spring Hill Drive.

Nevada City Highway

Nevada City Highway is primarily a two-lane minor arterial that transitions from East Main Street at Brunswick Road and transitions into Zion Street at Ridge Road just south of Nevada City. It contains a two-way left turn lane from just north of Brunswick Road to just south of Glenbrook Road. The posted speed limit on Nevada City Highway is 35 miles per hour.

Sutton Way

Sutton Way is a north-south two-lane collector. It connects Idaho-Maryland Road with Brunswick Road and provides access to residential neighborhoods and commercial/retail business areas to the north. The posted speed limit along Sutton Way is 25 miles per hour at the Brunswick Road intersection and 35 miles per hour at the Idaho-Maryland Road intersection.

Penn Valley Area Sites

Sites 10, 11, 13

Sites 10, 11 and 13 form a contiguous parcel located in the residential area of the Penn Valley Community on the north side of Penn Valley Drive approximately ¼ mile east of the intersection of Penn Valley Drive and Spenceville Road. The sites are currently vacant; however, there is an existing access road at the Penn Valley Drive street frontage of Site 11. Regional access to Sites 10, 11, and 13 is provided by SR 20 from the east and west.

Site 12

Site 12 is located in the Penn Valley Community south of Penn Valley Drive on Broken Oak Court. Site 12 is located to the south of Sites 10, 11, and 13, approximately ¼ mile from the intersection of Broken Oak Court and Penn Valley Drive. Site 12 is a vacant parcel located within an existing residential neighborhood. Broken Oak Court fronts the entire east side of the site and includes a cul-de-sac at the northeast and southeast corners. The following Penn Valley area roadways were examined in the EIR:

SR 20

SR 20 is a west-east highway that runs from the Yuba County line in the west through the cities of Grass Valley and Nevada City and terminates at Interstate 80 in the east. The posted speed limit on SR 20 is 55 miles per hour east of Penn Valley Drive and 65 miles per hour on the four-lane portion west of Penn Valley.

Penn Valley Drive

Penn Valley Drive is the primary two-lane major collector through the Penn Valley Community and provides access to SR 20 to the east and west. Penn Valley Drive travels in an east-west direction parallel to SR 20 from the south leg of SR 20 and Rough and Ready Highway, through the Penn Valley Community, to Pleasant Valley Road and Chances Rural Road in the east. Sites 10, 11, 12 and 13 are all accessible via access roads onto Penn Valley Drive. The Penn Valley Pathway (Class I facility) runs parallel to Penn Valley Drive between Horton Street and Spenceville Road. The posted speed limit on Penn Valley Drive is 35 miles per hour.

Lake of the Pines Area Sites

Site 14

Site 14 is located in the Lake of the Pines area on Cameo Drive approximately 1/3 mile to the south of the intersection of SR 49 and Cameo Drive. Site 14 is a vacant parcel with no established connection to the roadway network. Regional access to the site is provided by SR 49 via Cameo Drive from the north and south.

Site 15 & 16

Sites 15 and 16 are located in the Lake of the Pines area on Woodridge Drive approximately 1/3 mile to the east of the intersection of SR 49 and Cameo Drive. Sites 15 and 16 have an established connection at Site 16's frontage with Woodridge Drive which consists of an access gate and gravel road. Regional access to the site is provided by SR 49 via Woodridge Drive.

Site 17

Site 17 is located in the Lake of the Pines area at the southeast corner of Rosewood Road and Combie Road. Site 17 is an undeveloped parcel with no established connections to the roadway network. The site is approximately 1/2 mile to the east of SR 49. Regional access to the site is provided via Combie Road to SR 49 from the north and south

Site 18

Site 18 is located in the Lake of the Pines area on the north side of Combie Road approximately two miles southeast of the intersection of Combie Road / Magnolia Road / Hacienda Drive. The site is a vacant parcel fronting Combie Road; however, there is no established connection to the roadway network. Regional access to the site is provided from SR 49 via Combie Road. The following Lake of the Pines area roadways were examined in this EIR:

SR 49

SR 49 is a four-lane highway that provides north-south access through the foothills. SR 49 runs from SR 41 in the south to SR 70 in the north. In the vicinity of the project, SR 49 is a four-lane facility with various access interchanges in the City. In the project vicinity, access is from Combie Road, Cameo Drive, and Woodridge Drive. The posted speed limit on SR 49 is 55 miles per hour.

Combie Road

Combie Road is a major collector that runs in an east-west direction from SR 49 to West Hacienda Drive, and a north-south direction from the Combie Road / Magnolia Road, West Hacienda Drive intersection to the south. The posted speed limit on Combie Road is 35 miles per hour.

Cameo Drive

Cameo Drive is a two-lane local road that originates at SR 49 in the west and dead ends approximately 3/4 mile to the east of SR 49.

4.15.2 STUDY LOCATIONS

Study Intersections

With cooperation from the City, County and Caltrans, the following intersections were selected for analysis. These intersections were projected to be the most likely to be impacted by the proposed project site. The study intersections locations are identified, existing intersection geometry and control type are shown in Figure 4.15-1a-c, *Existing Intersection Geometry*.

Grass Valley SOI Area Study Intersections

- Existing Study Intersections
 1. Nevada City Highway / Brunswick Road

2. SR 20-49 SB Ramps / Brunswick Road
 3. SR 20-49 NB Ramps / Brunswick Road
 4. Sutton Way / Brunswick Road
 5. Brunswick Road / Idaho-Maryland Road
 6. McCourtney Drive / Personeni Road
 7. Taylorville Road / McKnight Way
 8. SR 49 SB Ramps / McKnight Way
 9. SR 49 NB Ramps / McKnight Way
 10. La Barr Meadows Road / McKnight Way
 27. Brunswick Road / Loma Rica Drive
- Future Study Intersections
 20. Brunswick Road / Town Talk Road (Sites 7 & 8 Access Road)
 21. Brunswick Road / Triple Crown Drive (Site 3-6 & 9 Access Road)
 22. La Barr Meadows Drive / Driveway Site 2

McCourtney Road / Driveway Site / Penn Valley Area Study Intersections

- Existing Study Intersections
 11. Pleasant Valley Road / SR 20
 12. Cattle Road / SR 20
 13. Rough and Ready Highway / Penn Valley Drive / SR 20
 14. Penn Valley Road / Spenceville Road
- Future Study Intersections
 23. Sites 10, 11, 13 Access Road / Penn Valley Drive
 24. Broken Oak Court (Site 12 Access) / Penn Valley Drive

Lake of the Pines Area Study Intersections

- Existing Study Intersections
 15. SR 49 / Cameo Drive
 16. SR 49 / Combie Road
 17. Rosewood Road / Combie Road
 18. Hacienda Drive / Combie Road / Magnolia Road
 19. SR 49 / Woodridge Drive
 28. Combie Road / Higgins Road
- Future Study Intersections
 26. Driveway Site 18 / Combie Drive

Existing Pedestrian and Bicycle Circulation

The Nevada County Transportation Commission (NCTC) adopted the Nevada County Bicycle Master Plan in July 2007. The following provides a description of bicycle facility classifications:

- **Class I Bikeway (Bike Path)** – A Class I Bikeway is a physically separated bike path that does not share the roadway with motorized vehicles. They can be separated by either open space or a physical barrier and are generally two-way facilities.
- **Class II Bikeway (Bike Lane)** – A Class II Bikeway is a bike lane that shares a portion of the roadway with motorized vehicles. They are separated by striping and are signed and marked for exclusive use by bicycle traffic. Class II Bikeways provide service for one-way bicycle traffic and are located outside of the through lanes for motorized vehicles.
- **Class III Bikeway (Bike Route)** – A Class III Bikeway is a bike route that shares the roadway with motorized vehicles. They are identified by signs and not separated by striping. Class III Bikeways are utilized in locations that do not have Class I or Class II facilities or to connect Class II Bikeways to provide a continuous bikeway system.

Grass Valley SOI Area Bicycle and Pedestrian Facilities

Currently, the only designated bicycle facilities within the City are a Class II facility on Ridge Road from Hughes Road to the Nevada Union High School and a Class II facility on East Main Street from Scandling Avenue to north of Dorsey Drive. None of the project study roadways currently have bicycle facilities.

Penn Valley Bicycle and Pedestrian Facilities

Bicycle and Pedestrian facilities in the Penn Valley area include the Penn Valley Pathway. The Penn Valley Pathway is a 1-mile long Class I shared path that runs parallel to Penn Valley Road between Horton Street and Spenceville Road.

Lake of the Pines Area Bicycle and Pedestrian Facilities

According to the County General Plan EIR, bicycling and walking have not been widely used as transportation modes in Nevada County with the exception of students commuting to school and recreational trips (Nevada County, 1994). Limited dedicated facilities for walking and bicycling are available in the Lake of the Pines project area, and no existing bikeway or pedestrian facilities were identified within the immediate area of the project sites.

The Higgins Area Plan proposes to construct a Class I multi-purpose trail on the north side of Combie Road SR 49 to the Magnolia Intermediate School on Kingston Road. The proposed facility will include an 8-foot wide multi-purpose trail that meanders through a landscaped frontage on the north side of Combie Road.

Transit Service

Nevada County is serviced by three public transportation services. These include the Gold Country Stage, Gold Country Telecare and Dial-a-Ride. Dial-a-ride is a private, non-profit organization that provides service to the elderly and disabled riders on a demand basis. Gold County TeleCare is also a private, non-profit organization that transports elderly and disabled riders to shopping and medical appointments. Paratransit Services, Inc., will be taking over County paratransit services from TeleCare beginning July 1, 2013.

Grass Valley SOI Area Transit Service

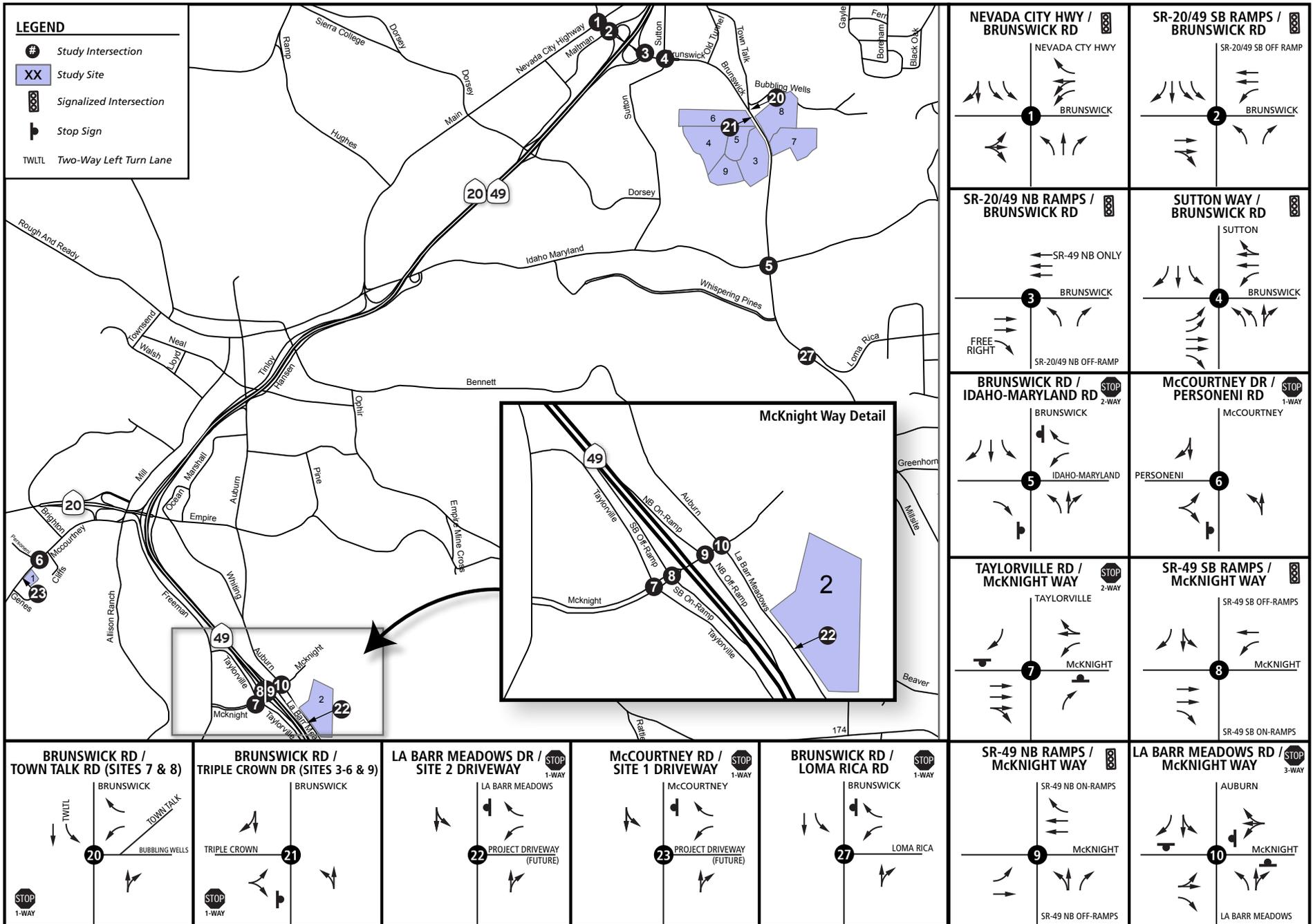
The Gold Country Stage provides bus service throughout Grass Valley and Nevada City. It provides service to the Alta Sierra, Chicago Park, Lake of the Pines, Bitney Springs, Lake Wildwood, San Juan Ridge and Penn Valley neighborhoods and to the cities of Auburn and Colfax in Placer County. All of the buses in the Gold Country Stage fleet are equipped with wheelchair lifts and front-mounted bicycle racks. Ridership on the transit service, according to the Nevada County Bicycle Master Plan, is approximately 0.76 percent of daily commuters.

In the vicinity of the Grass Valley project area, there are two bus routes, Route 4 – Brunswick Basin and Route 8 – Loma Rica. Route 4 operates service between Grass Valley and Nevada City, with service originating at the Tinloy Street Transit Center on Bank Street and the Fowler Center. Hourly service is provided at these points Monday through Saturday from 8:10 AM to 5:10 PM in the northbound direction and from 7:44 AM to 5:44 PM in the southbound direction. Major stops on this route include downtown Grass Valley, Safeway, Sierra Nevada College, Sierra Nevada Memorial Hospital, Glenbrook Shopping Center, Gold Country Shopping Center, and the Fowler Center. Route 4 travels along Dorsey Drive and Sutton Way adjacent to the project area.

Route 8 provides service in the eastern area of Grass Valley in the project vicinity. Service is provided westbound departing from the Tinloy Street Transit Center on Bank Street, from 7:30 AM to 5:00 PM, and in the eastbound direction, departing from the Nevada County Airpark and GCS office, from 7:43 AM to 3:43 PM. Saturday service is provided five times per day, departing Grass Valley between 9:00 AM and 3:15 PM. Major stops include PRIDE, Crown Point Circle, Nevada County Airpark, and the GCS offices. Route 8 travels along Loma Rica Drive adjacent to the project area. The Gold Country Stage plans to change Route 8 to Route 3 in May 2010.

Penn Valley Area Transit Service

The Penn Valley area is serviced by Gold Country Stage Route 6. Route 6 travels along Penn Valley Road throughout the project area. The route terminates at the west at the Wildwood Center on Pleasant Valley Road and to the eastern most terminus at Tinloy Street Transit Center in the City of Grass Valley. Route 6 makes several stops in the Penn Valley study area, including stops at Penn Valley and Hwy 20, Gateway Park, Valley Oak Court, and Northridge Pizza.



Source: RBF Consulting 2013

GRASS VALLEY SOI STUDY AREA

COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

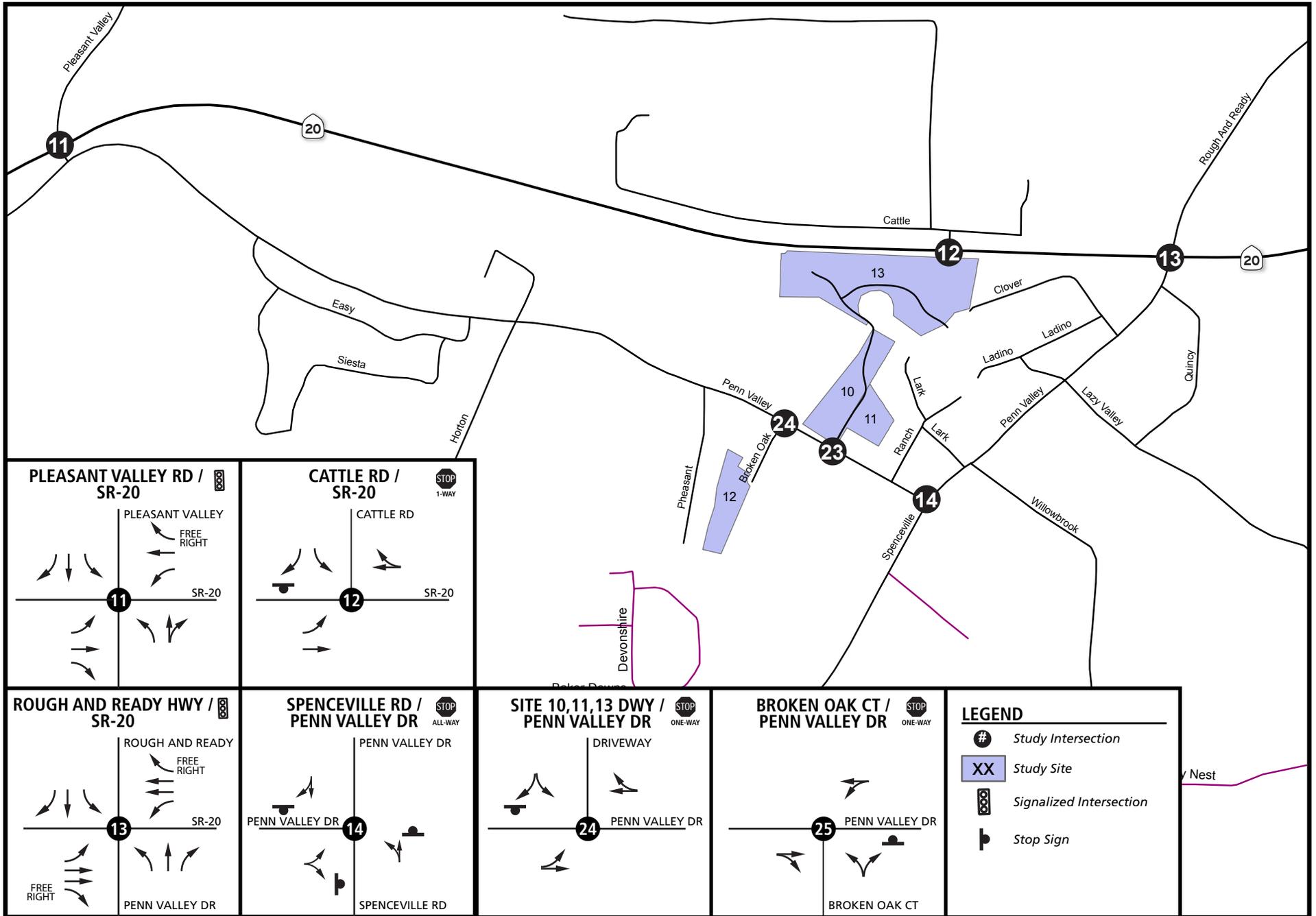


Not to Scale

Existing Intersection Geometry

4/21/2013 • JN 131242-18945

FIGURE 4.15-1a



Source: RBF Consulting 2013



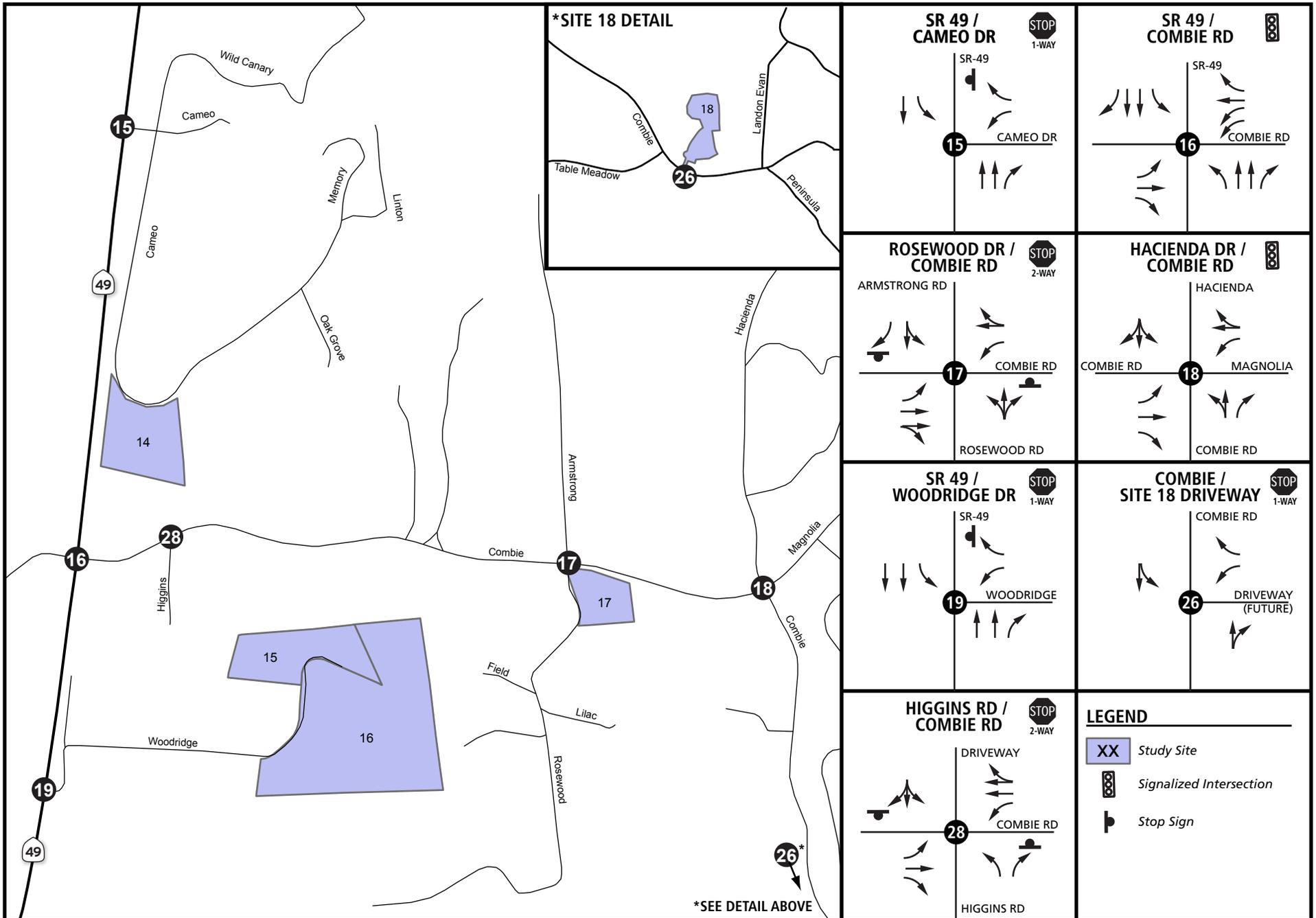
Not to Scale

4/21/2013 • JN 131242-18945

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Existing Intersection Geometry

FIGURE 4.15-1b



Source: RBF Consulting 2013



Not to Scale

4/212013 • JN 131242-18945

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Existing Intersection Geometry

FIGURE 4.15-1c

Lake of the Pines Area Transit Service

One route, Gold Country Stage Route 5, provides service to the Lake of Pines area. This route travels north/south on SR 49 to Combie Road and the turnaround at the Lake Center Shopping plaza. Route 5 connects to Nevada City, Grass Valley and the Auburn multi-modal center at the Amtrak station. This service includes 12 buses per day operating at approximately two-hour headways.

Rail

While fixed rail service is not provided in Nevada County, Amtrak operates Thruway bus service. This connects Nevada City, Grass Valley, and Lake of the Pines with the 'Capitol Corridor' rail service between Auburn and San Jose. In addition, the 'San Joaquin' rail service provides service between Emeryville and Bakersfield.

4.15.3 ANALYSIS METHODOLOGY

The analysis methods outlined in the Transportation Research Board's 2000 and 2010 Highway Capacity Manual (HCM) were used in this study. It should be noted that differences in the analysis results for standard signalized and stop controlled intersection evaluation would be negligible between the 2000 and 2010 HCM. The results of this analysis on operational performance of a roadway network are commonly described using a grading system called Level of Service (LOS). LOS is a description of intersection operating conditions, ranging from LOS A (free flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The threshold for each LOS grade is provided in Table 4.15-1, *HCM Level of Service Criteria for Unsignalized Intersections*. The HCM methods for calculating LOS and significance criteria for signalized intersections, stop controlled intersections, and roundabouts are described below.

The evaluation of signalized, all-way stop (AWS), and side street stop (SSS) controlled intersection operations was performed using the Synchro analysis software. The new 2010 HCM was available at the time of this report; however, few jurisdictions have adopted the 2010 HCM in their analysis, as many LOS software programs have only recently released updated software programs that incorporate the 2010 HCM methodologies.

The 2010 HCM provides a completely new procedure for analysis of roundabouts that is based on research conducted on roundabouts in the United States. Roundabouts were analyzed using Sidra software, which is based on the 2010 HCM methodologies for roundabout controlled intersections. This is the most up-to-date recognized software tool available for roundabout analysis and is also being utilized by Caltrans. These methodologies are consistent with Nevada County and City of Grass Valley standards for traffic analysis.

Factors used in determining intersection LOS vary depending on the control device at the intersection. For all-way (four-way) stop intersections, average delay per vehicle is used to define the LOS of the intersection operation. The average delay is determined based on the roadway capacity (number of travel lanes) provided on each intersection approach and the traffic demand.

**Table 4.15-1
 HCM Level of Service Criteria for Unsignalized Controlled Intersections:
 All-Way Stop, Side Street Stop, and Roundabout Controlled Intersections**

Level of Service	Description	Control Delay (seconds/vehicle)
A	Intersections operating at LOS A contain no congestion. The intersection operates with very little delay.	< 10
B	Intersections operating at LOS B contain very little congestion. The intersection operates with minimal delay.	>10 – 15
C	Intersections operating at LOS C contain little congestion. The intersection operates with some delay.	>15 – 25
D	Intersections operating at LOS D contain some congestion. The intersection operates with longer delays.	>25 – 35
E	Intersections operating at LOS E border on being congested. The intersection operates with very long delays.	>35 – 50
F	Intersections operating at LOS F contain congestion. The intersection operates with extreme delays. This condition usually warrants improvements to the intersection.	>50

Source: *Highway Capacity Manual*, (2000 and 2010)

For side street stop controlled (one- and two-way stop) intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street. For two-way stop controlled intersections, the overall average delay and LOS were reported as well as the delay and LOS for the worst intersection movement. Both are reported in this study because traffic on the minor street approaches has the lowest priority of right-of-way at the intersection and is the most critical in terms of delay. Generally, an LOS operation on the side street approach is the threshold that warrants improvements. For all-way stop controlled intersections, the overall intersection average delay and LOS were reported.

The HCM calculates the LOS of the minor street approaches and the overall intersection LOS based on this data. It should be noted that both the overall intersection LOS and the minor approach LOS are provided in this EIR. This is because traffic on the minor street approaches has the lowest priority of right-of-way at the intersection and, therefore, is the most critical in terms of delay.

For signalized intersections, average control delay per vehicle is utilized to define intersection LOS. Delay is dependent on a number of factors, including the signal cycle length, the roadway capacity (number of travel lanes) provided on each intersection approach and the traffic demand. The threshold for each LOS grade is provided in Table 4.15-2, *HCM Level of Service Criteria for Signalized Intersections*.

**Table 4.15-2
HCM Level of Service Criteria for Signalized Intersections**

Level of Service	Description	Volume / Capacity Ratio	Control Delay (seconds /vehicle)
A	Free flow conditions, unimpeded ability to maneuver and pass, very little delay, no platoons, highest average travel speeds.	≤ 0.60	0 – 10
B	Mostly free flow conditions, presence of other vehicles beings to be noticeable. Passing is required to maintain speeds, slightly less average travel speeds than Level of Service "A".	0.61 – 0.70	>10 – 20
C	Traffic density clearly affects the ability to pass and maneuver within the stream. Speeds are reduced to about 50 mph on highways and about 50% of the average on urban arterials.	0.71 – 0.80	>20 – 35
D	Unstable flow. Speeds are reduced from 40% to 60% of normal. Passing demand is high although mostly impossible on 2-lane highways. Traffic disruptions usually cause extensive queues.	0.81 – 0.90	>35 – 55
E	Very unstable flow at or near capacity. Passing and maneuvering virtually impossible. Extensive platooning on highways and queuing on arterials. Speeds range from 20 mph to less on arterials and 2 lane highways, and up to 50 mph on multi-lane highways.	0.91 – 1.00	>55 – 80
F	Forced or breakdown flow. Demand exceeds capacity. Vehicles experience short spurts of movement followed by stoppages. Intersection congestion, long queues and delays are common.	> 1.00	>80

Source: *Highway Capacity Manual*, (2000 & 2010), Chapter 16, Signalized Intersections, p. 16-2.

Signal warrant analysis was conducted based upon the methodology recommended in the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) and associated Caltrans state guidelines. This analysis requires that an engineering study be performed before traffic signals are installed. Recommendations to provide signals are based on limited planning-level data for the peak hour signal warrants only and may not be sufficient for installing signals. Furthermore, the decision to install a traffic signal should not be based solely upon the warrants, since the installation of traffic signals can lead to certain types of accidents. The relevant local or state agency should undertake regular monitoring of actual traffic conditions and accident data, and perform re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.

It is possible that an unsignalized intersection will not meet signal warrants, even though one or more movement may experience LOS F operations. Although vehicles stopped on minor streets may experience long delays of one minute or more, there would not be an overall benefit if the higher number of vehicles on the major street were stopped in favor of the few vehicles on the minor street. The signal warrant analysis balances major street and minor street delays, and may indicate that there is an overall benefit if driver for some turning movements from the minor street continue to experience long (LOS E or F) delays.

4.15.4 EXISTING TRAFFIC OPERATIONS AND LEVELS OF SERVICES

In accordance with the Nevada County policies and the City of Grass Valley *Policy Adopting Traffic Impact Study Methodology and Evaluation Criteria for Critical Intersections*, traffic counts were performed during the PM peak hour (4:00 PM to 6:00 PM) at the twenty eight study intersections in the vicinity of the project area on November 8, 2012. The PM peak hour is defined by the highest hour for overall traffic volumes or the worst-case traffic conditions during the day. This is reflective of typical travel patterns throughout Nevada County and due to the low number of retail-related trips that take place during the AM peak hour. In addition, the project trip generation rate is highest during the PM peak hour.

The trip generation per dwelling unit for the proposed project land use of multi-family housing (ITE Land Use # 230 Condominiums / Townhouse) is highest during the PM peak hour, at 0.44 trips during the AM peak hour, 0.52 trips per during the PM peak hour, and 0.47 trips during the weekend peak hour.

Traffic volumes at the intersection of Brunswick Road and Loma Rica Drive were obtained from the Loma Rica Ranch Specific Plan EIR (RBF Consulting, September 2010). Traffic volumes at the intersection of Higgins Road and Combie Road in the Lake of the Pines area were obtained from the Traffic Impact Analysis for Higgins Marketplace (KD Anderson & Associates, August 13, 2007). The traffic volumes at these two locations were compared to the traffic volumes at nearby intersections which did not indicate growth (less than 2%) that would significantly change the operational analysis. The volumes were adjusted to balance with intersections immediately adjacent to each location.

The existing intersection configuration and traffic counts are provided in Figure 4.15.2a-c, *Existing Peak Hour Volumes*.

EXISTING INTERSECTION TRAFFIC CONDITIONS

The Synchro 8 analysis software program, which uses the HCM methodologies, was used to determine the LOS for the weekday existing PM peak hour at each of the intersections within the project area. The results of the analysis for all the study intersections are listed in Table 4.15-3, *Signalized Intersection HCM LOS – Existing Conditions*, and Table 4.15-4, *Unsignalized Intersection HCM LOS – Existing Conditions*. All intersections operate at an acceptable LOS except for the following:

Grass Valley SOI Area:

- Brunswick Road / Idaho-Maryland Road intersection currently operates at LOS F on the worst approach (westbound) during the PM peak hour. This intersection meets the peak hour signal warrants for the PM peak hour under existing conditions.

Lake of the Pines Area:

- Rosewood & Armstrong Road / Combie Road intersection currently operates at LOS F on the worst approach (northbound) during the PM peak hour. This intersection does not meet the peak hour signal warrants for the PM peak hour under existing conditions.

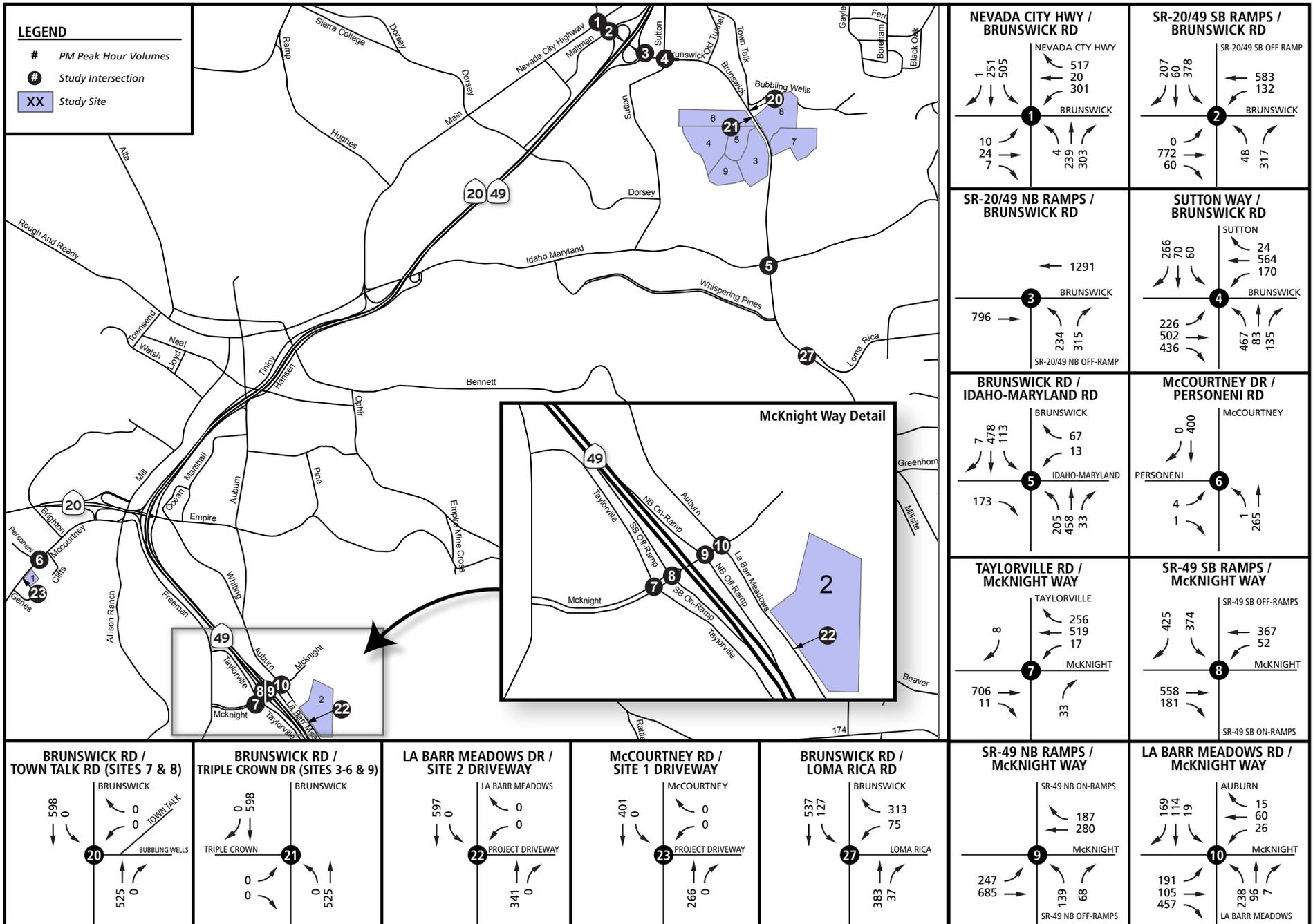
**Table 4.15-3
Signalized Intersection HCM LOS – Existing Conditions**

Intersection	Intersection Control	Agency LOS Threshold	Existing		
			V/C Ratio	Delay (Secs.)	LOS
Grass Valley SOI Study Intersections					
1. Nevada City Highway / Brunswick Road	Signal	G.V. D	0.51	27.4	C
2. SR 20-49 SB Ramps / Brunswick Road	Signal	Caltrans C/D	0.69	21.8	C
3. SR 20-49 NB Ramps / Brunswick Road	Signal	Caltrans C/D	0.48	16.9	B
4. Sutton Way / Brunswick Road	Signal	G.V. C	0.69	26.7	C
8. SR 49 SB Ramps / McKnight Way	Signal	Caltrans C/D	0.59	21.4	C
9. SR 49 NB Ramps McKnight Way	Signal	Caltrans C/D	0.60	25.4	C
Penn Valley Study Intersections					
11. Pleasant Valley Rd / SR-20	Signal	Caltrans C/D	0.58	23.8	C
13. Penn Valley Drive / SR-20	Signal	Caltrans C/D	0.52	17.7	B
Lake of the Pines Study Intersections					
16. SR-49 Combie Road	Signal	Caltrans C/D	0.72	31.5	C
17. Hacienda Drive Combie Road	Signal	Nev. Cnty. C	0.68	25.7	C

Source: RBF Consulting 2013

Notes: GV = City of Grass Valley, Nev. Cnty = Nevada County

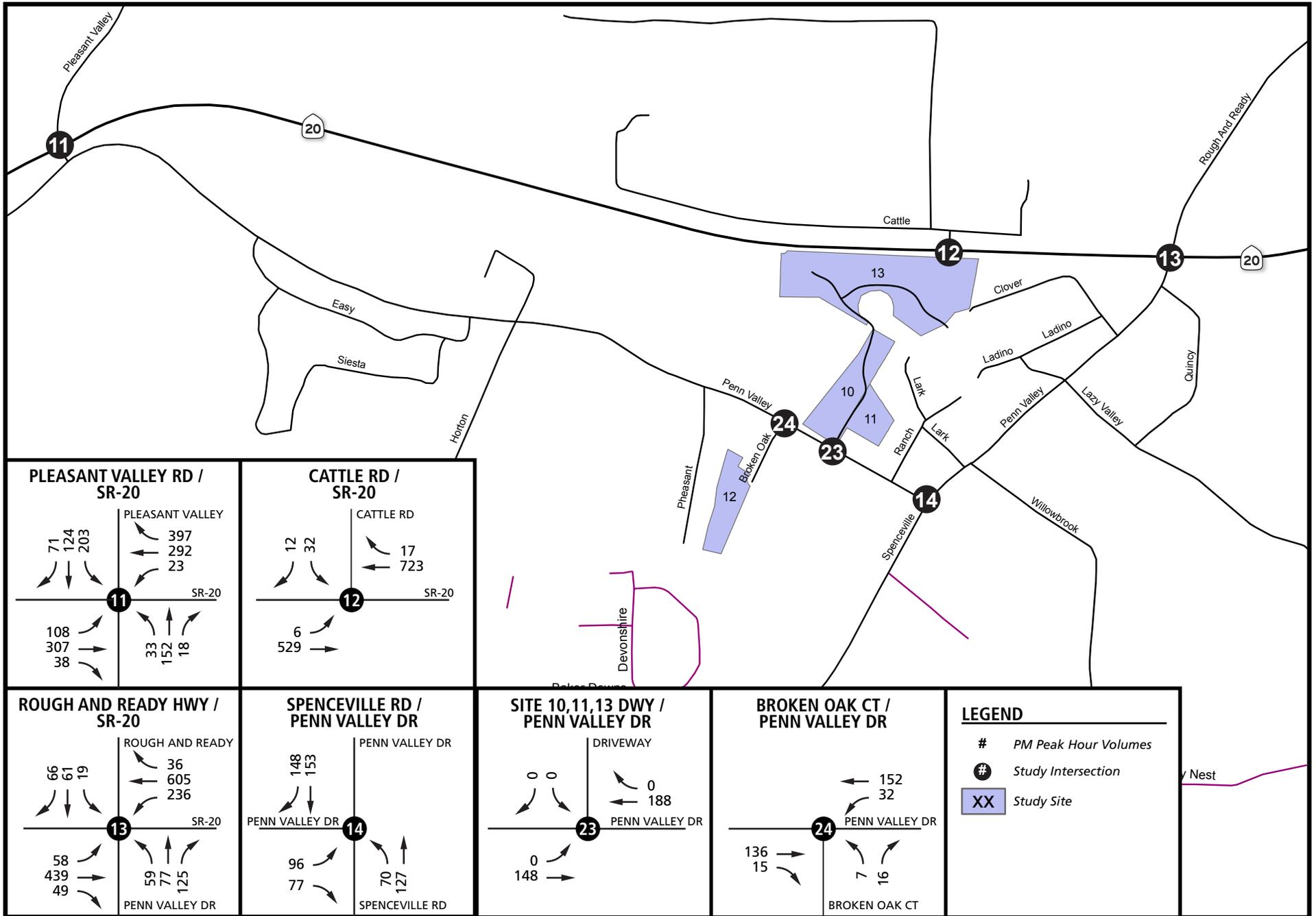
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Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



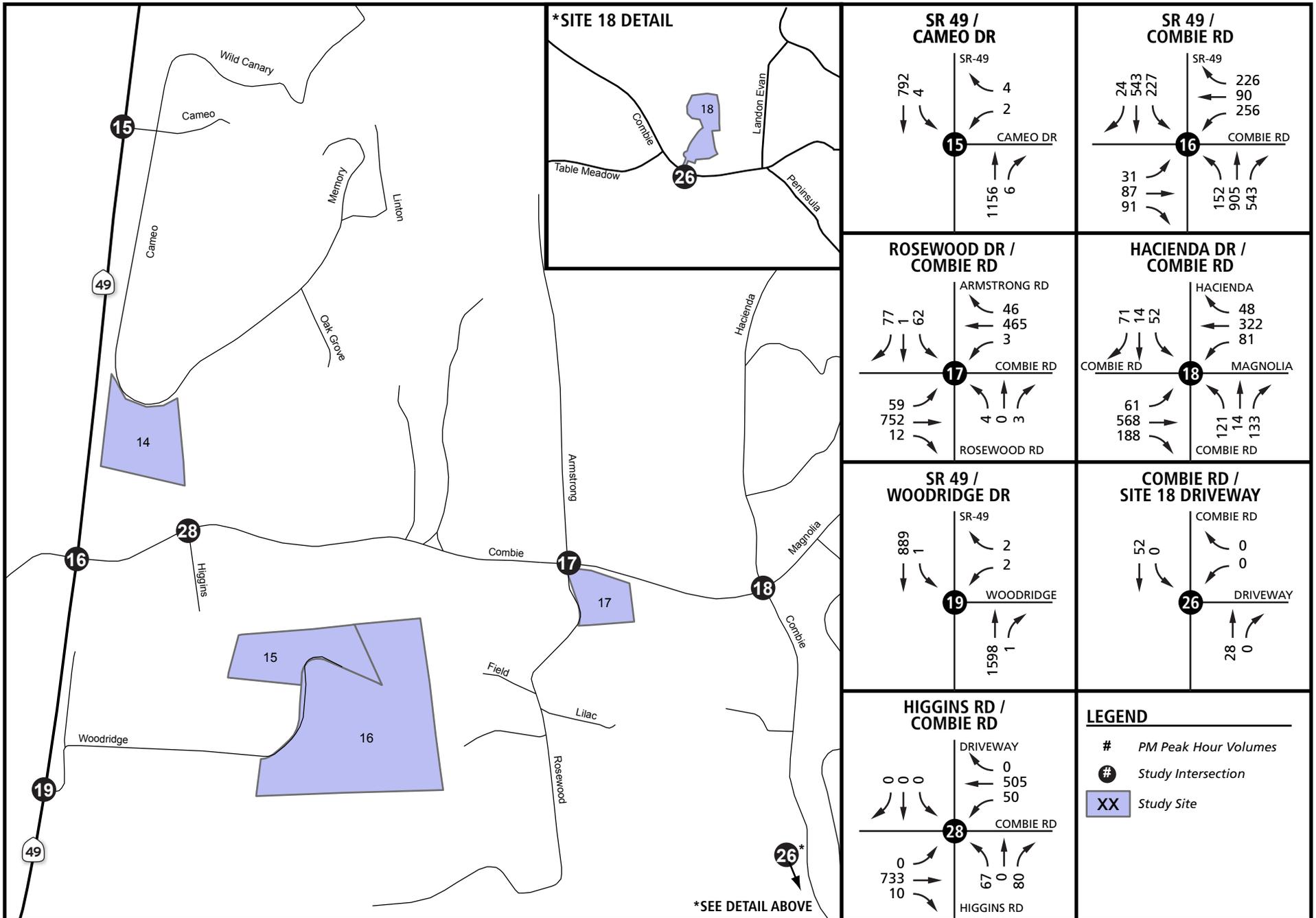


Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Existing PM Peak Hour Traffic Volumes





Source: RBF Consulting 2013 Not to Scale

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Existing PM Peak Hour Traffic Volumes



**Table 4.15-4
Unsignalized Intersection HCM LOS – Existing Conditions**

Intersection	Intersection Control	Existing		
		Agency LOS Threshold	Delay (Secs.)	LOS
Grass Valley SOI Study Intersections				
5. Brunswick Road Idaho-Maryland Road	SSS (EB/WB) <i>Worst Approach</i>	G.V.	7.4	A
		D	73.5	F
6. McCourtney Road Personeni Road	SSS (EB) <i>Worst Approach</i>	G.V.	0.1	A
		D	13.6	B
7. Taylorville Road McKnight Way	SSS (NB/SB) <i>Worst Approach</i>	G.V.	0.4	A
		D	14.2	B
10. La Barr Meadows Road McKnight Way	SSS (NB/SB) <i>Worst Approach</i>	G.V.	22.5	C
		D	29.5	D
27. Brunswick Road Loma Rica Drive	SSS (EB/WB) <i>Worst Approach</i>	G.V.	5.5	A
		D	18.0	C
Penn Valley Study Intersections				
12. Cattle Drive SR-20	SSS (SB) <i>Worst Approach</i>	Caltrans	1.0	A
		C/D	27.6	D
14. Spenceville / Penn Valley Road Penn Valley Drive	AWS <i>Worst Approach</i>	Nev. Cnty.	10.2	B
		D	10.5	B
Lake of the Pines Study Intersections				
15. SR-49 Cameo Drive	SSS (WB) <i>Worst Approach</i>	Caltrans	0.1	A
		C/D	16.3	C
17. Rosewood Road Combie Road	SSS (NB/SB) <i>Worst Approach</i>	Nev. Cnty.	3.4	A
		D	53.2	F
19. SR-49 Woodridge Drive	SSS (NB) <i>Worst Approach</i>	Caltrans	0.0	A
		C/D	23.0	C

Source: RBF Consulting 2013

Notes: 1. NB, SB, EB, WB, AWS, SSS = Northbound, Southbound, Eastbound, Westbound, All Way, Side Street Stop

2. Worst approach delay utilized to identify operating conditions. Overall delay includes through traffic.

EXISTING PLUS BACKGROUND PROJECTS TRAFFIC WITH CURRENT GENERAL PLAN CONDITIONS

Existing Plus Background Projects with Current General Plan conditions include existing traffic plus the traffic generated by approved projects within the vicinity of the project areas plus traffic associated with buildout of the project sites using the Current Nevada County General Plan land use designations. The Background Projects trip distributions were provided by Nevada County and the City of Grass Valley. The Background Projects trip generation is provided in Table 4.15-5a, *Background Projects Trip Generation*. The location of background projects is shown in Figure 4.15-3.

To calculate trips generation for the project sites under existing General Plan land use designations, the Institute of Transportation Engineers 9th Edition (ITE, 2012) trip generation rates were utilized. Table 4.15-5b summarizes the ITE trip generation rates used.

These trips were then added to the Existing and Background Project traffic volumes to calculate Existing plus Background with Current General Plan Conditions. The Nevada

County Transportation Commission (NCTC) and Grass Valley Travel Demand Model were utilized to estimate the trip distribution for each of the proposed project sites. The models were reviewed to ensure that they accurately represented the existing road networks within, and adjacent to the project area. The model was adjusted to assume construction of the Dorsey Drive / SR 20/49 in the City of Grass Valley. The Existing Plus Background Projects traffic volumes are indicated in Figure 4.15-4a-c, *Existing Plus Background Project Plus Sites Under Current General Plan Land Use Designations PM Peak Hour Volumes*.

This condition provides a baseline for determining project-related impacts at the study intersections.

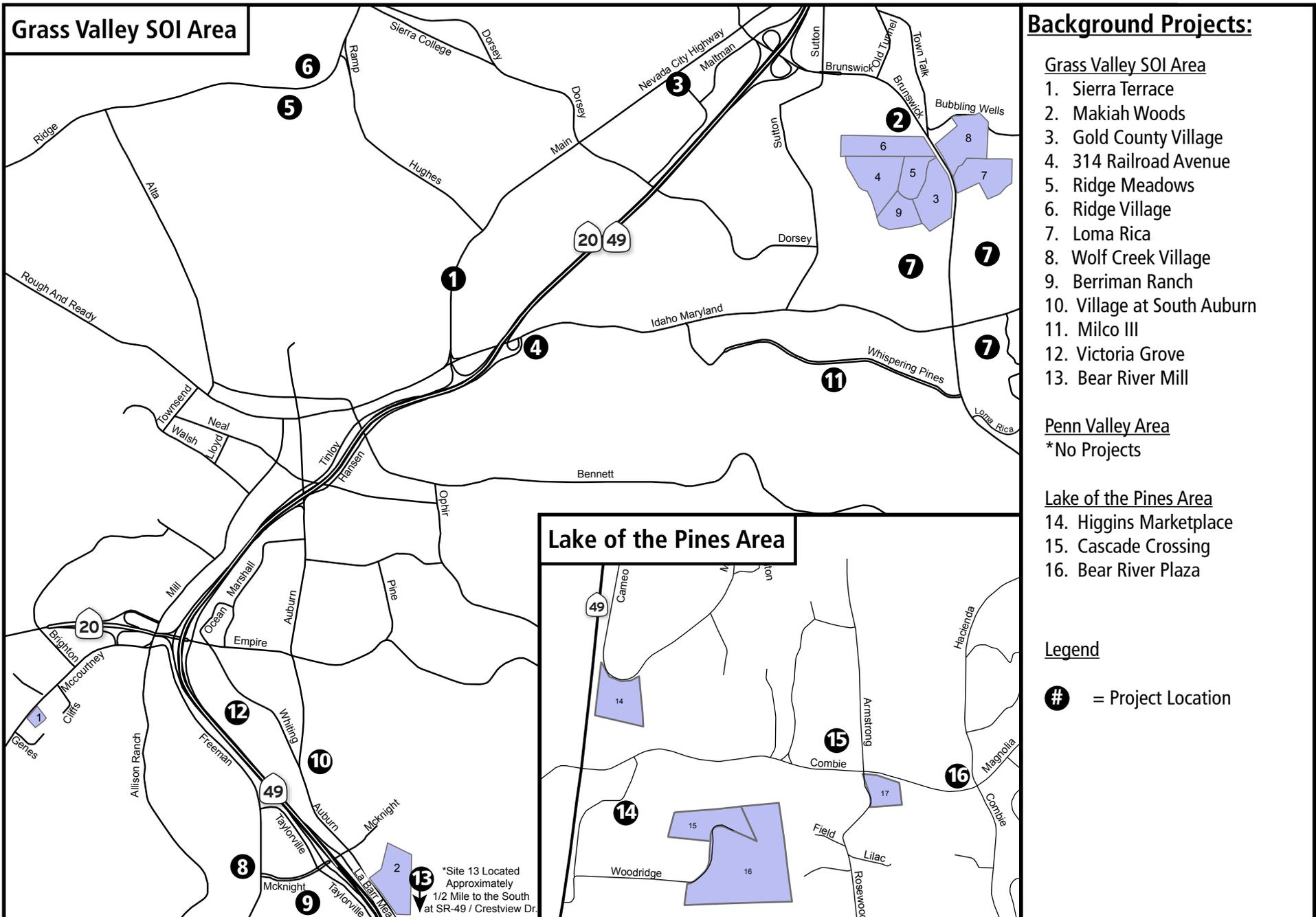
The Synchro 8 analysis software program, which uses the HCM methodologies, was used to determine the LOS for the weekday Existing Plus Background Projects with Current General Plan Conditions PM peak hour at each of the intersections. The results of the analysis are listed in Table 4.15-6 and Table 4.15-7. All intersections would continue to operate at an acceptable LOS, except for the following.

Grass Valley SOI Area:

- Brunswick Road / Idaho-Maryland Road intersection is anticipated to continue to operate at an overall LOS F in the PM peak hour. This intersection would meet both volume and delay peak hour signal warrants during the PM peak hour under Existing plus Background with Current General Plan conditions.
- La Barr Meadows Road / McKnight Way intersection is anticipated to operate at an overall LOS F in the PM peak hour. This intersection would meet both volume and delay peak hour signal warrants during the PM peak hour under Existing plus Background with Current General Plan conditions.

Lake of the Pines Area:

- SR 49 / Combie Road intersection is anticipated to operate at an overall LOS E in the PM peak hour.
- Rosewood & Armstrong Road / Combie Road intersection is anticipated to operate at an overall LOS F in the PM peak hour. This intersection would meet both volume and delay peak hour signal warrants during the PM peak hour under Existing plus Background with Current General Plan conditions.
- Higgins Road / Combie Road intersection is anticipated to operate at an overall LOS E and LOS F on the worst approach (northbound) during the PM peak hour. This intersection would meet both volume and delay peak hour signal warrants during the PM peak hour under Existing plus Background with Current General Plan conditions.



Background Projects:

Grass Valley SOI Area

1. Sierra Terrace
2. Makiah Woods
3. Gold County Village
4. 314 Railroad Avenue
5. Ridge Meadows
6. Ridge Village
7. Loma Rica
8. Wolf Creek Village
9. Berriman Ranch
10. Village at South Auburn
11. Milco III
12. Victoria Grove
13. Bear River Mill

Penn Valley Area

*No Projects

Lake of the Pines Area

14. Higgins Marketplace
15. Cascade Crossing
16. Bear River Plaza

Legend

= Project Location

Source: RBF Consulting 2013



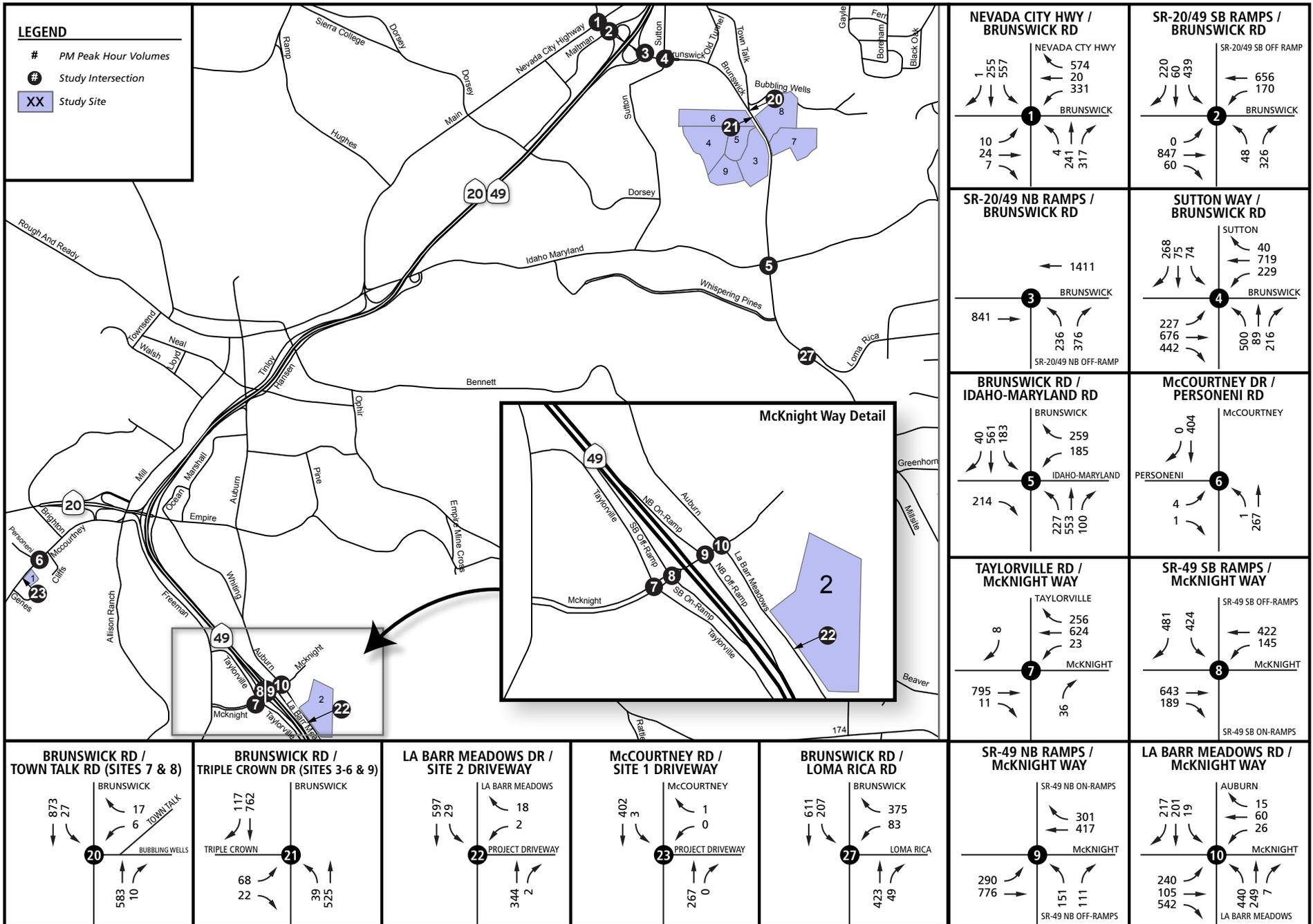
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Background Projects Map

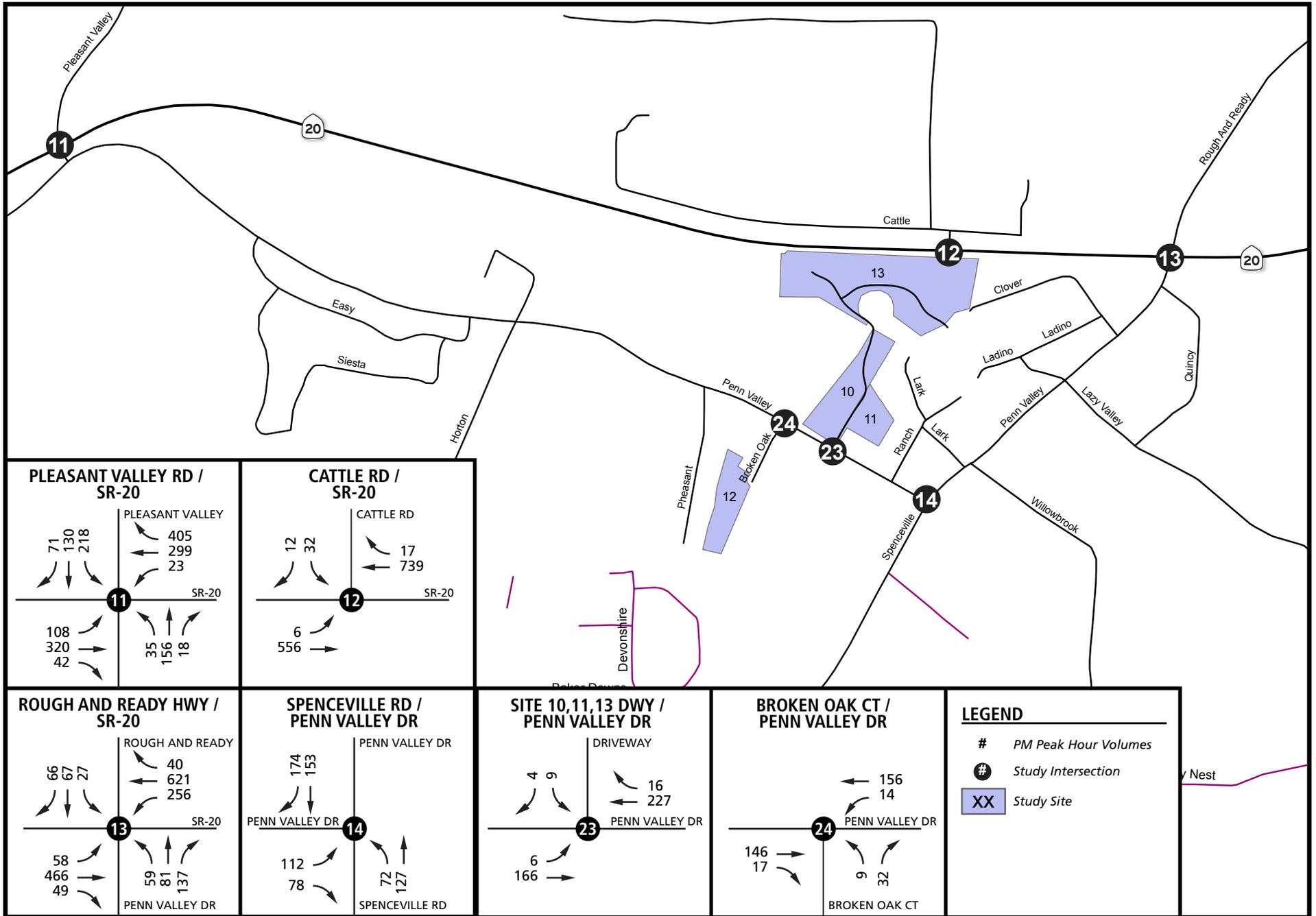
FIGURE 4.15-3



Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

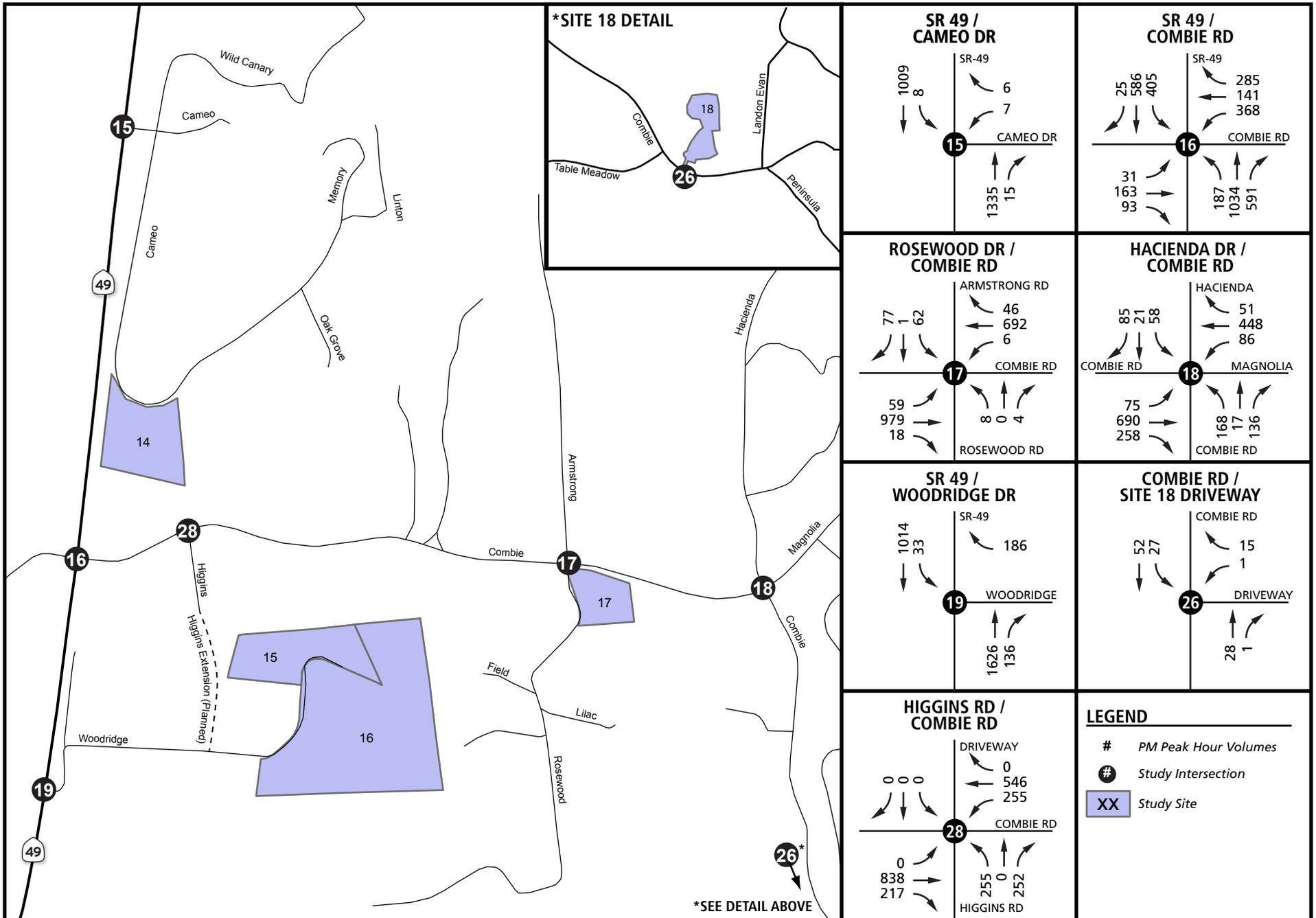




Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR





Source: RBF Consulting 2013 Not to Scale

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



**Table 4.15-5a
Background Projects Trip Generation**

	ITE LAND USE CODE	PROJECT SIZE		PM PEAK HOUR			
				TOTAL PEAK HOUR	IN	/	OUT
Grass Valley SOI Background Projects							
Sierra Terrace							
Single Family Detached Homes	210	14	Units	14	9	/	5
Residential Condo/Townhouse	230	8	Units	4	3	/	1
Apartment	220	14	Units	9	5	/	4
Total				27	17	/	10
Makiah Woods							
Single Family Detached Homes	210	49	Units	56	28	/	28
Gold Country Village							
Senior Housing		175	Units	33	20	/	13
314 Railroad Avenue							
General Office		27,596	SF	30	5	/	25
Ridge Meadows							
Single Family Detached Homes	210	49	Units	46	29	/	17
Ridge Village							
Single Family Detached Homes	210	55	SF	54	34	/	20
Loma Rica							
Residential Single Family, Apartments, Mixed Use, Commercial, Business Park	Multiple	**	**	1,402	635	/	767
Wolf Creek Village							
Single Family Detached Homes	210	40	Units	22	14	/	8
Berriman Ranch							
Single Family Detached Homes	210	121	Units	122	77	/	45
Village at South Auburn							
Single Family Detached Homes	210	49	Units	49	31	/	18
Retail / Office	750	23,264	SF	28	5	/	23
Total				77	36	/	41
Milco II							
Light Industrial		57,315	SF	56	7	/	49
Victoria Grove							
Single Family Detached Homes	210	72	Units	73	47	/	26
Bear River Mill							
Single Family Detached Homes	210	66	Units	57	31	/	26
Residential Condo/Townhouse	230	461	Units	435	238	/	197
Light Industrial		1,000,000	SF	894	107	/	787
Commercial / Retail / Office		425,000	SF	1,193	585	/	608
Total				2,579	961	/	1,618
Penn Valley Area Background Projects							
Penn Valley Oaks							
Single Family Detached Homes	210	46	Units	46	29	/	17
Residential Condo/Townhouse	230	2	Units	1	1	/	0
Retail / Office	750	6,874	SF	10	1	/	9
Total				57	31	/	26
Lake of the Pines Background Projects							
Higgins Marketplace							
Retail / Supermarket / Office		127,600	SF	694	362	/	333
Cascade Crossing							
Single Family Detached Homes	210	80	Units	80	50	/	30
Bear River Plaza							
Office Space	710	25,666	SF	38	6	/	32
Specialty Commercial	826	13,819	SF	38	16	/	22
Residential Condominium / Townhomes	230	28	Units	17	11	/	6
Total				93	33	/	60

Table 4.15-5a, continued

Source: Nevada County / City of Grass Valley, 2012

** The Loma Rica Ranch Project consists of 129 multi-family units, 571 single-family homes, 364,161 square feet of business and light industrial, 54,000 square feet of commercial and retail, 21 acres of parks, and 1 organic farm.

**Table 4.15-5b
 Current General Plan Land Use Designations Trip Generation**

	ITE LAND USE CODE	PROJECT SIZE	PM PEAK HOUR			
			TOTAL PEAK HOUR	IN	/	OUT
Grass Valley SOI Sites						
Site 1	SFD	210	4	3	/	1
Site 2	SFD	210	45	28	/	17
Site 3	SFD	210	54	34	/	20
Site 4	SFD	210	68	43	/	25
Site 5	SFD	210	27	17	/	10
Site 6	SFD	210	58	37	/	21
Site 7	SFD	210	6	4	/	2
Site 8	SFD	210	54	34	/	20
Site 9	SFD	210	39	25	/	14
Penn Valley Area Sites						
Site 10	SFD	210	23	14	/	9
Site 11	SFD	210	12	8	/	4
Site 12	SFD	210	1	16	/	10
Site 13	SFD	210	26	1	/	0
Lake of the Pines Area Sites						
Site 14	SFD	210	20	13	/	7
Site 15	MFD	230	74	26	/	13
Site 16	MFD	230	271	94	/	47
Site 17	SFD	210	14	9	/	5
Site 18	SFD	210	44	28	/	16
Countywide Total:			674	432	/	242

Source: RBF Consulting, 2013

Notes: SFD = Single-Family Detached Land Use, MFD = Multi-Family Dwellings (Condos / Townhouse) Land Use
 Utilized average trip generation rates from ITE Trip Generation 9th Edition (2012)

**Table 4.15-6
Signalized Intersection HCM LOS – Existing Plus Background Projects Plus Sites
under Current General Plan Land Use Designations**

			Existing			Existing + Background w/ Current GP		
Intersection	Intersection Control	LOS	V/C Ratio	Delay (Secs.)	LOS	V/C Ratio	Delay (Secs.)	LOS
		Threshold						
Grass Valley SOI Study Intersections								
1. Nevada City Highway / Brunswick Road	Signal	G.V. D	0.51	27.4	C	0.54	28.0	C
2. SR 20-49 SB Ramps / Brunswick Road	Signal	Caltrans C/D	0.69	21.8	C	0.74	25.1	C
3. SR 20-49 NB Ramps / Brunswick Road	Signal	Caltrans C/D	0.48	16.9	B	0.56	17.6	B
4. Sutton Way / Brunswick Road	Signal	G.V. D	0.69	26.7	C	0.78	34.8	C
8. SR 49 SB Ramps / McKnight Way	Signal	Caltrans C/D	0.59	21.4	C	0.69	24.8	C
9. SR 49 NB Ramps McKnight Way	Signal	Caltrans C/D	0.60	25.4	C	0.68	31.3	C
Penn Valley Study Intersections								
11. Pleasant Valley Rd / SR-20	Signal	Caltrans C/D	0.58	23.8	C	0.61	25.3	C
13. Penn Valley Drive / Rough and Ready Hwy SR-20	Signal	Caltrans C/D	0.52	17.7	B	0.57	17.7	B
Lake of the Pines Study Intersections								
16. SR-49 Combie Road	Signal	Caltrans C/D	0.72	31.5	C	0.99	98.6	F
18. Hacienda Drive Combie Road	Signal	Nev. Cnty. C	0.68	25.7	C	0.81	33.0	C
Source: RBF Consulting 2013								
Notes: 1. GV = City of Grass Valley, Nev. Cnty = Nevada County								

**Table 4.15-7
Unsignalized Intersection HCM LOS – Existing Plus Background Projects Plus
Project Sites Under Current General Plan Conditions**

			Existing		Existing + Background w/ Current GP	
Intersection	Intersection Control	LOS	Delay (Secs.)	LOS	Delay (Secs.)	LOS
		Threshold				
Grass Valley SOI Study Area						
5. Brunswick Road / Idaho-Maryland Road	SSS (EB/WB) <i>Worst Approach</i>	G.V.	7.4	A	>100 *	F
		D	73.5	F		F
6. McCourtney Road / Personeni Road	SSS (EB) <i>Worst Approach</i>	G.V.	0.1	A	0.1	A
		D	13.6	B	13.7	B
7. Taylorville Road / McKnight Way	SSS (NB/SB) <i>Worst Approach</i>	G.V.	0.4	A	0.4	A
		D	14.2	B	16.2	C
10. La Barr Meadows Road / McKnight Way	SSS (NB/SB) <i>Worst Approach</i>	G.V.	22.5	C	72.5	F
		D	29.5	D	97.8	F
20. Brunswick Road / Town Talk Road / Sites 7,8	SSS (EB) <i>Worst Approach</i>	G.V.	n/a		0.5	A
		D			20.3	C
21. Brunswick Road / Triple Crown Drive / Sites 3-6, 9	SSS (WB) <i>Worst Approach</i>	G.V.	n/a		3.9	A
		D			61.6	F
22. McCourtney Road / Driveway Site 1	SSS (WB) <i>Worst Approach</i>	G.V.	n/a		0.5	A
		D			11.5	B
27. Brunswick Road / Loma Rica Drive	SSS (EB/WB) <i>Worst Approach</i>	G.V.	5.5	A	7.8	A
		D	18.0	C	25.5	D
Penn Valley Study Area						
12. Cattle Drive / SR-20	SSS (SB) <i>Worst Approach</i>	Caltrans	1.0	A	1.0	A
		C/D	27.6	D	29.3	D
14. Spenceville / Penn Valley Rd/ Penn Valley Drive	AWS <i>Worst Approach</i>	Nev. Cnty.	10.2	B	10.6	B
		C	10.5	B	11.1	B
23. Penn Valley Drive / Driveway to Sites 10, 11, 13	SSS (SB) <i>Worst Approach</i>	Nev. Cnty.	n/a		0.5	A
		C			10.9	B
24. Penn Valley Drive / Broken Oak Court / Site 12	SSS (NB) <i>Worst Approach</i>	Nev. Cnty.	1.2	A	1.4	A
		C	8.9	A	9.7	A
Lake of the Pines Study Area						
15. SR-49 / Cameo Drive	SSS (WB) <i>Worst Approach</i>	Caltrans	0.1	A	0.2	A
		C/D	16.3	C	24.2	C
17. Rosewood Road / Combie Road	SSS (NB/SB) <i>Worst Approach</i>	Nev. Cnty.	3.4	A	12.8	B
		C	53.2	F	>100	F
19. SR-49 / Woodridge Drive	SSS (NB) <i>Worst Approach</i>	Caltrans	0.0	A	1.8	A
		C/D	23.0	C	26.3	D
26. Combie Road / Driveway to Site 18	SSS (NB) <i>Worst Approach</i>	Nev. Cnty.	n/a		2.7	A
		C			8.6	A
28. Higgins Road / Combie Road	SSS (NB/SB) <i>Worst Approach</i>	Nev. Cnty.	2.5	A	68.6	E
		C	20.8	C	>100	F

Source: RBF Consulting 2013

Notes: 1. NB, SB, EB, WB, AWS, SSS = Northbound, Southbound, Eastbound, Westbound, All Way, Side Street Stop

2. Worst approach delay utilized to identify operating conditions. Overall delay includes through traffic.

3. **Bold** indicates LOS below acceptable LOS standard

4.15.5 REGULATORY SETTING

Traffic analysis in California is guided by policies and standards set at the state level by Caltrans and at the local level by the applicable jurisdictions. Three agencies have jurisdiction over the roadways studied for the proposed project: Caltrans, the County of Nevada, and the City of Grass Valley.

COUNTY OF NEVADA

County of Nevada's Traffic Impact Mitigation Fee Program

Regional Transportation Mitigation Fee and Local Traffic Mitigation Fee

The current Traffic Impact Mitigation Program was established in 1997 with the adoption of a Local Traffic Mitigation Fee (LTMF). In 2001, the adoption of a Regional Traffic Mitigation Fee (RTMF) recognized cross-jurisdictional traffic between western County cities and unincorporated County. The LTMF and RTMF combine to provide both local and regional methods to allow development on an incremental basis while collecting fees to offset growth impacts.

Nevada County General Plan

The Nevada County General Plan provides the following policies to address traffic and circulation issues. The following sections identify General Plan policies for circulation that are relevant to the proposed project.

- Policy LU-4.1.1 The minimum level of service allowable in the Rural Regions of the County, as identified in the General Plan, shall be level of service (LOS) C, except where the existing LOS is less than C. In those situations, the LOS shall not be allowed to drop below the existing LOS. Level of service shall be based on the typical highest peak hour of weekday traffic. Special events may be permitted which temporarily exceed this minimum LOS.
- Policy LU-4.1.2 The minimum acceptable level of service (LOS) for area identified as Community Regions in the General Plan shall be LOS D, except where the existing LOS is less than D. In those situations, the LOS shall not be allowed to drop below the existing LOS. Level of service shall be based on the typical highest peak hour of weekday traffic.
- Policy LU-4.1.3 The land use pattern reflected in the Nevada County General Plan Land Use Map is correlated with the future ability of the transportation system, including the major roadway network, to adequately serve said land uses based upon the service criteria and levels of service identified in Policy 4.1, Policy 4.3, Policy 3.1, and Policy 3.10. All General Plan amendments shall be required to show that the proposed development is also correlated with the future provision of transportation facilities and levels of service according to the same criteria.
- Policy LU-4.1.11 New roads built to serve discretionary projects shall be maintained through private maintenance agreements,

- homeowners associations, Permanent Road Divisions (PRDs), or Community Service Areas (CSAs)
- Policy MV-4.2.4 The County shall maintain the function and integrity of arterial and major collector roads by limiting access wherever possible. For all new development, allow access via the lowest roadway classification, consistent with safe operation of the roadways and environmental constraints
- Policy MV-4.2.5 In the review of all discretionary permits, the County shall consider the effect of the proposed development on the area-wide transportation network and the effect of the proposed development on the road network and other transportation facilities in the immediate vicinity of the project site
- Policy MV-4.2.10 Discretionary development served by a dead end road and located beyond the dead end road limit shall be required, at a minimum, to construct secondary access roads in accordance with Chapters XVI and XVII of the Nevada County Land Use Code. Secondary access roads shall meet Nevada County Fire Standard Access Road standards unless a Petition for Exception is approved granting lesser standards.
- Policy RD-4.3.1 All discretionary and ministerial non-residential projects shall consider the feasibility of providing transit alternatives to automobile transportation and ways to reduce the dependence on the automobile. For projects generating 50 or more employees, the applicant shall prepare an analysis documenting means to reduce automobile dependence. Wherever feasible, measures documented in the analysis shall be incorporated into the project. This process shall be coordinated with the applicable Transportation Management Association (TMA) or successor agencies.
- Policy RD-4.3.6 Sidewalks, walkways, bicycle facilities and paths should be provided where necessary, and on an equitable basis with roadway improvements.
- Policy EP-4.4.1 The County shall require environmentally sound practices for transportation facility construction and maintenance. New roads or improvements to the existing road system and all trails and pathways shall be located, constructed and maintained in a manner compatible with the environment.

CITY OF GRASS VALLEY

Grass Valley Traffic Impact Fee Program

The Grass Valley Traffic Impact Fee Program (GVTIF) collects fees from future developments as mitigation to improve the City's road network infrastructure as the City grows through General Plan buildout. The GVTIF is updated periodically.

Grass Valley 2020 General Plan

The City of Grass Valley General Plan provides the following goals and objectives to address traffic and circulation issues.

- 1-CG: Provide a circulation system that utilizes a variety of transportation modes, including alternative means of transportation.
- 1-CO: Development of a viable pedestrian and bicycle transportation network (sidewalks, paths, lanes and trails) providing alternatives to motorized vehicular transportation.
- 2-CO: Ongoing examination of transit opportunities and funding mechanisms.
- 3-CO: Inclusion of alternative transportation in local and regional transportation plans, as needed.
- 2-CG: Ensure that street and roadway improvements complement and support land use goals, objectives, policies and plans.
- 4-CO: Placement of public transportation access at convenient locations.
- 5-CO: Convenient, safe and functional facilities for pedestrians, bicyclists and equestrians.
- 6-CO: Flexible standards that respect existing neighborhoods.
- 7-CO: Use of City standards throughout the Planning Area.
- 3-CG: Provide for the safe and efficient movement of people and goods in a manner that respects existing neighborhoods and the natural environment.
- 8-CO: Routing of through-traffic around neighborhoods to collector streets.
- 9-CO: Use of traffic calming techniques to protect neighborhoods and residents from adverse traffic impacts.
- 10-CO: Protection of stream courses, riparian areas and other natural features.
- 11-CO: Development and implementation of a comprehensive traffic safety program, including improvement of facilities serving pedestrian needs.
- 4-CG: Maintain, improve and expand the existing circulation and transportation system to provide reasonable ingress, egress and internal movement.
- 12-CO: Establishment of and adherence to a functional hierarchy of streets and highways, both within the city and throughout the Planning Area.
- 13-CO: Improvement of the transportation system to facilitate commerce and economic development.

- 5-CG: Maintain Adequate Emergency Access
- 12-CO: Improvement and maintenance of adequate emergency access throughout the city.

Grass Valley Policy Adopting Traffic Impact Study Methodology and Evaluation Criteria for Critical Intersections

The Grass Valley City Council adopted Resolution No. 06-21 approving the revised and updated Traffic Impact Study Methodology and Evaluation Criteria for Critical Intersections. The revised and updated criteria provide the following objectives:

- Develop a standard and accepted methodology or approach for preparing traffic reports.
- Develop a standard and accepted methodology for when a traffic report is required.
- Develop language that will clarify the intent of General Plan Policy 7-CI and a procedure for determining thresholds of significance for intersections currently operating at LOS D or worse. The procedure would involve a series of transportation engineering analyses to determine if a proposed development project would have a significant impact on the operating capacity and function of critical intersections. These levels, or steps, would be developed as a screening tool to determine if the project would breach an established threshold of significance (relative to the California Environmental Quality Act) and found consistent with Circulation policies of the City General Plan.
- Develop yearly monitoring system for checking the status of all affected intersections/roadways that is tied to the City/Regional Capital Improvement Program.
- Implement the work programs of the “Street System Master Plan” that would serve to link all local and regional policy documents as to the identification of circulation improvements, funding sources and timing of installation.

4.15.6 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

California Environmental Quality Act

According to Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact on traffic if the project 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 non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result 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
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

California Department of Transportation

The Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002) states that if an existing state highway facility is operating at less than the target LOS, the existing LOS should be maintained, thus adding any trips to a facility operating at adverse LOS would be a significant impact. The minimum acceptable LOS standard for Caltrans is LOS C.

Nevada County

Nevada County has the following criteria for determining the level of significance of project impacts:

- The minimum level of service allowable in the Rural Regions of the County, as identified in the General Plan, shall be LOS C, except where the existing LOS is less than C. In those situations, the LOS shall not be allowed to drop below the existing LOS. Level of service shall be based on the typical highest peak hour of weekday traffic. Special events may be permitted which temporarily exceed this minimum LOS.
- The minimum acceptable LOS for areas identified as Community Regions in the General Plan shall be LOS D, except where the existing LOS is less than D. In those situations, the LOS shall not be allowed to drop below the existing LOS. Level of service shall be based on the typical highest peak hour of weekday traffic.

City of Grass Valley

The City has the following additional criteria for determining the level of significance of project impacts:

- Project is not consistent with 2020 General Plan and NCTC traffic model or future City-wide traffic model relative to land use and generation of higher traffic projections.
- There are no feasible mitigation measures to reduce the impact of the project to less-than-significant levels. “Feasible” means mitigation has been identified in City’s General Plan, Street System Master Plan, Capital Improvement Program (CIP), or Regional or Local Transportation Fee Program.
- LOS A, B, C, and D are considered acceptable LOS’s for City intersections and roadway segments.
- If the project traffic causes an intersection or roadway segment to worsen from acceptable LOS to LOS E or worse or is distributed to an intersection or roadway segment currently operating at an unacceptable LOS, the project is determined to cause a significant impact which must be mitigated. It is acceptable to mitigate an intersection or roadway segment from an unacceptable LOS to an acceptable LOS. In the event of a significant impact, cumulative year analyses are required.

PROJECT CONDITIONS

The following sections describe the analysis to determine PM peak hour traffic conditions under the Existing Plus Background Projects Plus Project and provide an explanation of project trip generation, distribution and assignment. Project trips are defined as the net increase in trips generated by the Housing Element Rezone program from current General Plan conditions. This calculation is shown in Table 4.15-8 for each of the project sites. In this table, “Net New Trips” indicates the project trips or the additional trips generated as a result of the Housing Element Rezone program. In order to analyze the worst-case conditions, full buildout of the project sites was analyzed.

Project Trip Generation

Table 4.15-8, *Project Trip Generation*, contains the trip generation estimates for the each of the eighteen project sites. The trips are based upon rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition, 2012.

**Table 4.15-8
 Project Land Use Assumptions and Trip Generation under the Housing Element
 Rezone Program Land Use Designations**

PROJECT SITE	SCENARIO	Land Use	ITE LAND USE CODE	PROJECT SIZE		PM PEAK HOUR			
						TOTAL PEAK HOUR	IN	/	OUT
<i>Grass Valley SOI Sites</i>									
Site 1	Current GP	SFD	210	4	Units	4	3	/	1
	Housing Rezone Program	MFD	230	22	Units	11	8	/	3
<i>Net New Trips (Project Trips)</i>						7	5	/	2
Site 2	Current GP	SFD	210	45	Units	45	28	/	17
	Housing Rezone Program	MFD	230	227	Units	118	79	/	39
<i>Net New Trips (Project Trips)</i>						73	51	/	22
Site 3	Current GP	SFD	210	54	Units	54	34	/	20
	Housing Rezone Program	MFD	230	183	Units	95	64	/	31
<i>Net New Trips (Project Trips)</i>						41	30	/	11
Site 4	Current GP	SFD	210	68	Units	68	43	/	25
	Housing Rezone Program	MFD	230	227	Units	118	79	/	39
<i>Net New Trips (Project Trips)</i>						50	36	/	14
Site 5	Current GP	SFD	210	27	Units	27	17	/	10
	Housing Rezone Program	MFD	230	90	Units	47	32	/	15
<i>Net New Trips (Project Trips)</i>						20	15	/	5
Site 6	Current GP	SFD	210	58	Units	58	37	/	21
	Housing Rezone Program	MFD	230	194	Units	101	68	/	33
<i>Net New Trips (Project Trips)</i>						43	31	/	12
Site 7	Current GP	SFD	210	54	Units	6	4	/	2
	Housing Rezone Program	MFD	230	209	Units	103	69	/	34
<i>Net New Trips (Project Trips)</i>						97	65	/	32

Table 4.15-8, continued

PROJECT SITE	SCENARIO	Land Use	ITE LAND USE CODE	PROJECT SIZE		PM PEAK HOUR			
						TOTAL PEAK HOUR	IN	/	OUT
Site 8	Current GP	SFD	210	39	Units	54	34	/	20
	Housing Rezone Program	MFD	230	130	Units	109	73	/	36
	Net New Trips (Project Trips)					55	39	/	16
Site 9	Current GP	SFD	210	23	Units	39	25	/	14
	Housing Rezone Program	MFD	230	95	Units	68	46	/	22
	Net New Trips (Project Trips)					29	21	/	8
	Grass Valley SOI Area Net New Trip Subtotal					415	293	/	122
Penn Valley Area Sites									
Site 10	Current GP	SFD	210	23	Units	23	14	/	9
	Housing Rezone Program	MFD	230	95	Units	49	33	/	16
	Net New Trips (Project Trips)					26	19	/	7
Site 11	Current GP	SFD	210	12	Units	12	8	/	4
	Housing Rezone Program	MFD	230	50	Units	25	17	/	8
	Net New Trips (Project Trips)					13	9	/	4
Site 12	Current GP	SFD	210	26	Units	26	16	/	10
	Housing Rezone Program	MFD	230	36	Units	36	24	/	12
	Net New Trips (Project Trips)					10	8	/	2
Site 13	Current GP	SFD	210	1	Units	1	1	/	0
	Housing Rezone Program	MFD	230	322	Units	167	112	/	55
	Net New Trips (Project Trips)					166	111	/	55
	Penn Valley Net New Trips Subtotal					216	147	/	68
Lake of the Pines Area Sites									
Site 14	Current GP	SFD	210	20	Units	20	13	/	7
	Housing Rezone Program	MFD	230	42	Units	42	28	/	14
	Net New Trips (Project Trips)					22	15	/	7
Site 15	Current GP	MFD	230	38	Units	39	26	/	13
	Housing Rezone Program	MFD	230	42	Units	42	28	/	14
	Net New Trips (Project Trips)					3	2	/	1
Site 16	Current GP	MFD	230	271	Units	141	94	/	47
	Housing Rezone Program	MFD	230	290	Units	151	101	/	50
	Net New Trips (Project Trips)					10	7	/	3
Site 17	Current GP	SFD	210	14	Units	14	9	/	5
	Housing Rezone Program	MFD	230	38	Units	20	13	/	7
	Net New Trips (Project Trips)					6	4	/	2
Site 18	Current GP	SFD	210	44	Units	44	28	/	16
	Housing Rezone Program	MFD	230	176	Units	92	62	/	30
	Net New Trips (Project Trips)					48	34	/	14

Table 4.15-8, continued

PROJECT SITE	SCENARIO	Land Use	ITE LAND USE CODE	PROJECT SIZE	PM PEAK HOUR			
					TOTAL PEAK HOUR	IN	/	OUT
	<i>Lakes of the Pines Area Net New Trips Subtotal</i>				89	62	/	27
	<i>Countywide Net New Trips</i>				720	502	/	218

Source: RBF Consulting, 2013

Notes: SFD = Single-Family Detached Land Use, MFD = Multi-Family Dwellings (Condos / Townhouse) Land Use
 Utilized average trip generation rates from ITE Trip Generation 9th Edition (2012)

The sum of all trips may differ by +/- 1 trips overall due to rounding

The project proposes to implement a housing rezone program at eighteen project sites within the three study areas of the unincorporated Nevada County. The program proposes to rezone each of the eighteen project sites to a higher residential density to meet the minimum low and very low income requirements of the updated Nevada County Housing Element (Adopted May 11, 2010). The number of housing units assumed under Current General Plan zoning and under the housing rezone program are shown in Table 4.15-8 above.

The proposed rezone of all eighteen project sites (project) would add a net 8,860 trips per day on the roadway network, of which 720 trips (502 in and 218 out) would occur during the PM peak hour.

The following section provides a description of the project sites and an examination of site access locations. Several project sites form contiguous parcels and utilize shared access and internal circulation roads as indicated below. Refer to the maps provided in Figures 3-5 through 3-14 for additional site detail and access points.

Existing sight distances were reviewed in the field for potential sight distance deficiencies. During the design process of each site, attention should be given to horizontal and vertical sight distance constraints. Where horizontal/vertical limitations are infeasible to remove, restricted access should be considered. These limitations would be identified at the time the design of the roadways is prepared. Also, driveway conditions will have to be designed and constructed to provide adequate sight distances per City, County, and Caltrans standards as appropriate. In most cases, frontage improvements (e.g. roadway widening, curb, gutter, sidewalk, etc.) would be required in areas that are currently unimproved.

PROJECT SITE CONDITIONS / SIGHT DISTANCE CONSTRAINTS:

GRASS VALLEY SPHERE OF INFLUENCE AREA SITES

Site 1

Site 1 is located in the Grass Valley SOI area on McCourtney Road south of the intersection of McCourtney Road and Personeni Drive. Access to Site 1 will be provided at a single driveway to the west on the McCourtney Road frontage. Grading and vegetation removal may be required at the site driveway in order to provide sufficient sight distance if the future driveway is located at the existing location.

Site 2

Site 2 is a vacant site located south of the City of Grass Valley SOI area on the east side of La Barr Meadows Road approximately 600 feet to the south of the intersection of La Barr Meadows Road / Auburn Street and McKnight Way. Site access is anticipated to be provided via a single driveway to La Barr Meadows Road. Due to the steep topography along La Barr

Meadows Road, significant cut and grading may be required in order to allow for sufficient sight distance in and out of the project driveway.

Sites 3, 4, 5, 6 & 9

Sites 3, 4, 5, 6 and 9 form a contiguous parcel located in the northeast Grass Valley SOI area on the west side of Brunswick Road, directly west of Sites 7 and 8. Sites 3, 4, 5, 6 and 9 are anticipated to utilize Triple Crown Drive as a single shared driveway to Brunswick Road at the east side of the combined site. Sight distance to the south of the Triple Crown Drive is limited to 350 feet and constrained due to the curve on Brunswick Road and existing vegetation; sight distance to the north is constrained due to the uphill grade on Brunswick Road.

Sites 7 & 8

Sites 7 & 8 form a contiguous parcel located in the northeast Grass Valley SOI area on the east side of Brunswick Road, directly across from Sites 3-6 and 9. Site access is anticipated to be provided via a shared driveway at the intersection at Town Talk Road / Bubbling Wells Road. This proposed access will be located approximately 375 feet from the Site Access driveway to Sites 3, 4, 5, 6 and 9 at Triple Crown Drive.

PENN VALLEY AREA SITES

Sites 10, 11, 13

Sites 10, 11 and 13 form a contiguous parcel located in a residential area of the Penn Valley Community. Shared access to Sites 10, 11, and 13 will be provided at the location of the existing access road on the Penn Valley street frontage of Site 11. Internal circulation roads will be constructed connecting the sites, including a bridge / culvert structure over the creek at the northern portion corner of Site 12 providing a link to Site 13. A landscaped berm will be constructed at the northern boundary of Site 13 along SR 20 to provide noise screening and prohibit access to SR 20. Sight distance in and out of the site access road on Penn Valley Road is currently restricted due to the location of multiple large trees along the Penn Valley Road frontage. Removal of selected trees may be required to allow for adequate site distance at this location.

Site 12

Site 12 is located in the Penn Valley Community south of Penn Valley Drive on Broken Oak Court. Site access to Penn Valley Drive will be provided at the east side of the site via a driveway to Broken Oak Court.

LAKE OF THE PINES AREA SITES

Site 14

Site 14 is located in the Lake of the Pines area on Cameo Drive approximately 1/3 mile to the south of the intersection of SR 49 and Cameo Drive. Access to Site 13 is anticipated to be provided at the northwest corner of the property at the frontage on Cameo Drive. Sight distance at this location is highly constrained due to the tight curve and uphill grade on Cameo Drive.

Sites 15 & 16

Sites 15 and 16 form a contiguous parcel located in the Lake of the Pines area on Woodridge Drive approximately 1/3 mile to the east of the intersection of SR 49 and Woodridge Drive.

For this analysis, it was assumed that the approved Higgins Marketplace project located adjacent to the west side of Site 15 would be developed. The Higgins Marketplace project will implement the following improvements to the local transportation network:

- The existing Higgins Road will be extended to a connection with Woodridge Court.
- Access to and from northbound SR 49 at Woodridge Drive shall be limited to right-in/right-out turn movements. Left turns from Woodridge Drive to southbound SR 49 shall not be allowed. Left turns onto Woodridge Drive from southbound SR 49 shall be allowed.

Access to Sites 15 and 16 would be established at west side of Site 16 at Woodridge Road. The majority of trips would access the site via the Higgins Road extension to Woodridge Drive due to the turn restrictions as described above at SR 49 / Woodridge Drive. Only trips destined for points north of the SR 49 / Combie Road intersection and trips northbound on SR 49 to Sites 15 and 16 were assumed to utilize the SR 49 / Woodridge Drive intersection.

Site 17

Site 17 is located in the Lake of the Pines area at the southeast corner of Rosewood Road and Combie Road. Site access will be established via a driveway on the west side of the site to Rosewood Road. Rosewood Road is a private road owned and maintained by the surrounding residential property owners. Consequently, the development of Site 17 shall be coordinated with the surrounding property owners to ensure potential impacts are mitigated.

Site 18

Site 18 is a vacant parcel located on the north side Combie Road approximately two miles southeast of the intersection of Combie Road / Magnolia Road / Hacienda Road. Site access will be provided with an access road to the south side of the site at the frontage on Combie Road. Sight distance at the Combie Road driveway will be limited in all directions due to the existing topography and sharp curve on Combie Road. Grading and removal of vegetation will be required in order to provide adequate sight distance at this location.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The Nevada County Transportation Commission (NCTC) and Grass Valley Travel Demand Model were utilized to estimate the trip distribution for each of the proposed project sites. The models were reviewed to ensure that they accurately represented the existing road networks within, and adjacent to the project area. The Grass Valley Travel Demand model was updated to reflect the new Dorsey Drive Interchange with SR 20-49 in the Grass Valley SOI area. The model was not revalidated or recalibrated. Project trips and road networks were added and outputs generated. The NCTC Travel Demand Model Update project was still in progress at the time of this analysis (as of February 2013). For purposes of this analysis, the origin and destination matrices from the NCTC model were utilized to obtain the project trip distribution.

The NCTC and City of Grass Valley travel demand models were refined to include nine separate Traffic Analysis Zones (TAZs) rather than eighteen TAZs for each of the project site's. This was done because of the project's geographical layout and relation to the surrounding roadway network and study intersections. The sites were grouped into TAZs according by shared access. The Grass Valley Travel Demand Model was used for Sites 1, 2, 3, 4, 5, 6, 7, 8 and 9. The NCTC Travel Demand Model was used for Sites 10, 11, 12, 13, 14, 15, 16, 17, and 18.

Details of the project distribution for the three project study areas are indicated graphically on Figure 4.15-5a-c, *Net Project Trip Assignment and Distribution*.

The travel demand model, together with engineering judgment based on the knowledge of the existing traffic distribution, was used to determine the trip distribution along the roadway network in the vicinity of the proposed project.

The Existing Plus Background Projects Plus Project traffic volumes are indicated in Figure 4.15-6a-c, *Existing Plus Background Projects Plus Project Peak Hour Volumes*.

EXISTING PLUS BACKGROUND PROJECTS PLUS PROJECT INTERSECTION TRAFFIC CONDITIONS

The Synchro analysis software program, which uses the HCM methodologies, was used to determine the LOS for the weekday existing PM peak hour at each of the intersections within the project area. The results of the analysis for all the study intersections are listed in Table 4.15-9, *Signalized Intersection HCM LOS – Existing Plus Approved Projects Plus Project Conditions*, and Table 4.15-10, *Unsignalized Intersection HCM LOS – Existing Plus Approved Projects Plus Project Conditions*. All intersections would operate at an acceptable LOS, except for the following.

- Brunswick Road / Idaho-Maryland is anticipated to operate at LOS F during the PM peak hour.
- La Barr Meadows Road / McKnight Way is anticipated to operate at overall LOS E and LOS F at the worst approach during the PM peak hour.
- Brunswick Road / Triple Crown Road (Sites 3-6 & 9 Access Road) is anticipated to operate at an overall LOS D and LOS F at the worst approach during PM peak hour.

**Table 4.15-9
Signalized Intersection HCM LOS – Existing Plus Background Projects Plus Project Conditions**

Intersection	Intersection Control	LOS Threshold	Existing + Background w/ Current GP			Existing + Background + Project		
			V/C Ratio	Delay (Secs.)	LOS	V/C Ratio	Delay (Secs.)	LOS
Grass Valley SOI Study Intersections								
1. Nevada City Highway / Brunswick Road	Signal	G.V. D	0.54	28.0	C	0.55	28.3	C
2. SR 20-49 SB Ramps / Brunswick Road	Signal	Caltrans C/D	0.74	25.1	C	0.76	27.2	C
3. SR 20-49 NB Ramps / Brunswick Road	Signal	Caltrans C/D	0.56	17.6	B	0.61	18.1	B
4. Sutton Way / Brunswick Road	Signal	G.V. D	0.78	34.8	C	0.81	37.1	D
8. SR 49 SB Ramps / McKnight Way	Signal	Caltrans C/D	0.69	24.8	C	0.72	25.3	C
9. SR 49 NB Ramps McKnight Way	Signal	Caltrans C/D	0.68	31.3	C	0.70	34.2	C
Penn Valley Study Intersections								
11. Pleasant Valley Rd / SR-20	Signal	Caltrans C/D	0.61	25.3	C	0.62	25.5	C
13. Penn Valley Drive / SR-20	Signal	Caltrans C/D	0.56	17.4	B	0.65	22.0	C

Table 4.15-9, continued

Intersection	Intersection Control	LOS Threshold	Existing + Background w/ Current GP			Existing + Background + Project		
			V/C Ratio	Delay (Secs.)	LOS	V/C Ratio	Delay (Secs.)	LOS
Lake of the Pines Study Intersections								
16. SR-49 Combie Road	Signal	Caltrans C/D	0.99	98.6	F	1.02	>100	F
		Mitigation (MM 4.15-5): Add Southbound Left Turn Lane and Extend Westbound Left lane to 250 Ft.			0.80	35.0	C	
18. Hacienda Drive Combie Road	Signal	Nev. Cnty. D	0.81	33.0	C	0.82	33.7	C
Source: RBF Consulting 2013 Notes: 1. GV = City of Grass Valley, Nev. Cnty = Nevada County								

**Table 4.15-10
Unsignalized Intersection HCM LOS – Existing Plus Background Projects Plus Project Conditions**

Intersection	Intersection Control	LOS Threshold	Existing + Background w/Current GP		Existing + Background + Project	
			Delay (Secs.)	LOS	Delay (Secs.)	LOS
Grass Valley SOI Study Area						
5. Brunswick Road / Idaho-Maryland Road	SSS (EB/WB) Worst Approach	G.V.	>100	F	>100	F
		D	*	F	*	F
Mitigation (MM 4.15-2): Roundabout					8.3	A
6. McCourtney Road / Personeni Road	SSS (EB) Worst Approach	G.V.	0.1	A	0.1	A
		D	13.7	B	13.8	B
7. Taylorville Road / McKnight Way	SSS (NB/SB) Worst Approach	G.V.	0.4	A	0.4	A
		D	16.2	C	16.2	C
10. La Barr Meadows Road / McKnight Way	SSS (NB/SB) Worst Approach	G.V.	72.5	F	88.5	F
		D	97.8	F	>100	F
Mitigation (MM 4.15-3): Roundabout					12.4	B
20. Brunswick Road / Town Talk Road / Sites 7,8	SSS (EB) Worst Approach	G.V.	0.5	A	2.2	A
		D	20.3	C	45.9	E
21. Brunswick Road / Triple Crown Drive / Sites 3-6, 9	SSS (WB) Worst Approach	G.V.	3.9	A	32.0	D
		D	61.6	F	>100	F
Mitigation (MM 4.15-4): Signalize and Align with Town Talk Road					11.0	B
22. McCourtney Road / Driveway Site 1	SSS (WB) Worst Approach	G.V.	0.5	A	1.1	A
		D	11.5	B	12.0	B
27. Brunswick Road / Loma Rica Drive	SSS (WB) Worst Approach	G.V.	7.8	A	8.2	A
		D	25.5	D	27.3	D
Penn Valley Study Area						
12. Cattle Drive / SR-20	SSS (SB) Worst Approach	Caltrans	1.0	A	1.0	A
		C/D	29.3	D	31.2	D
14. Spenceville / Penn Valley Rd/ Penn Valley Drive	AWS Worst Approach	Nev. Cnty.	10.6	B	13.3	B
		D	11.1	B	14.8	B
23. Penn Valley Drive / Driveway to Sites 10, 11, 13	SSS (SB) Worst Approach	Nev. Cnty.	0.5	A	2.3	A
		D	10.9	B	13.2	B
24. Penn Valley Drive / Broken Oak Court / Site 12	SSS (NB) Worst Approach	Nev. Cnty.	1.4	A	1.4	A
		D	9.7	A	10.0	B
Lake of the Pines Study Area						
15. SR-49 / Cameo Drive	SSS (WB) Worst Approach	Caltrans	0.2	A	0.3	A
		C/D	24.2	C	27.1	D
17. Rosewood Road / Combie Road	SSS (NB/SB) Worst Approach	Nev. Cnty.	12.8	B	15.6	C
		D	>100	F	>100	F

Table 4.15-10, continued

Intersection	Intersection Control	LOS Threshold	Existing + Background w/Current GP		Existing + Background + Project	
			Delay (Secs.)	LOS	Delay (Secs.)	LOS
19. SR-49 / Woodridge Ct	SSS (NB)	Caltrans	1.8	A	1.9	A
	Worst Approach	C/D	26.3	D	27.7	D
26. Combie Road / Driveway to Site 18	SSS (NB)	Nev. Cnty.	2.7	A	4.0	A
	Worst Approach	D	8.6	A	8.7	A
28. Higgins Road / Combie Road	SSS (NB)	Nev. Cnty.	68.6	F	>100	F
	Worst Approach	D	>100	F	>100	F
Mitigation (MM 4.15-7): Signalize and Construct Additional Eastbound Through Lane					25.0	C

Source: RBF Consulting 2013

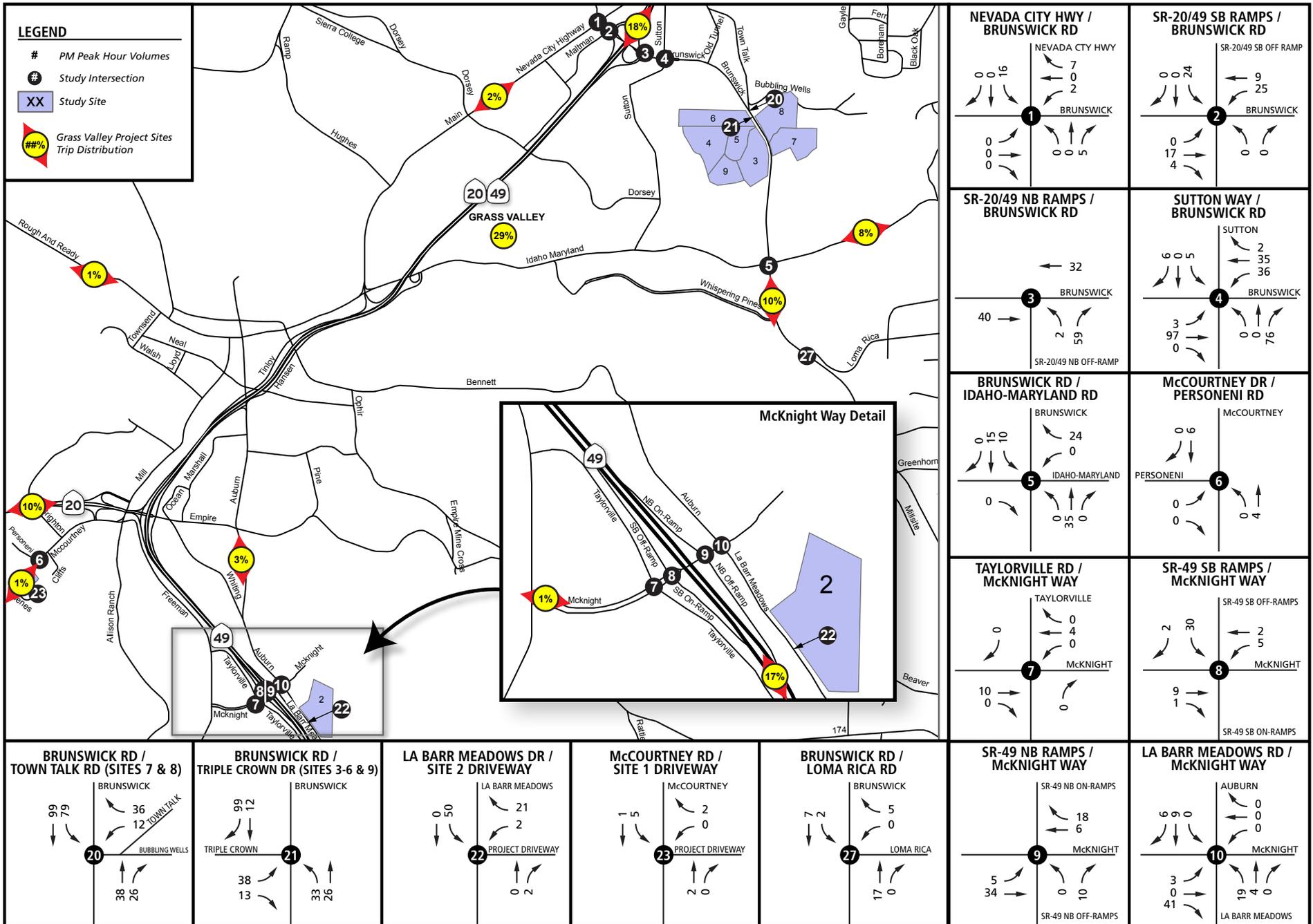
Notes: 1. NB, SB, EB, WB, AWS, SSS = Northbound, Southbound, Eastbound, Westbound, All Way, Side Street Stop

2. Worst approach delay utilized to identify operating conditions. Overall delay includes through traffic.

3. **Bold** indicates LOS below acceptable LOS standard

* Indicates delay beyond the capability of the Synchro analysis software

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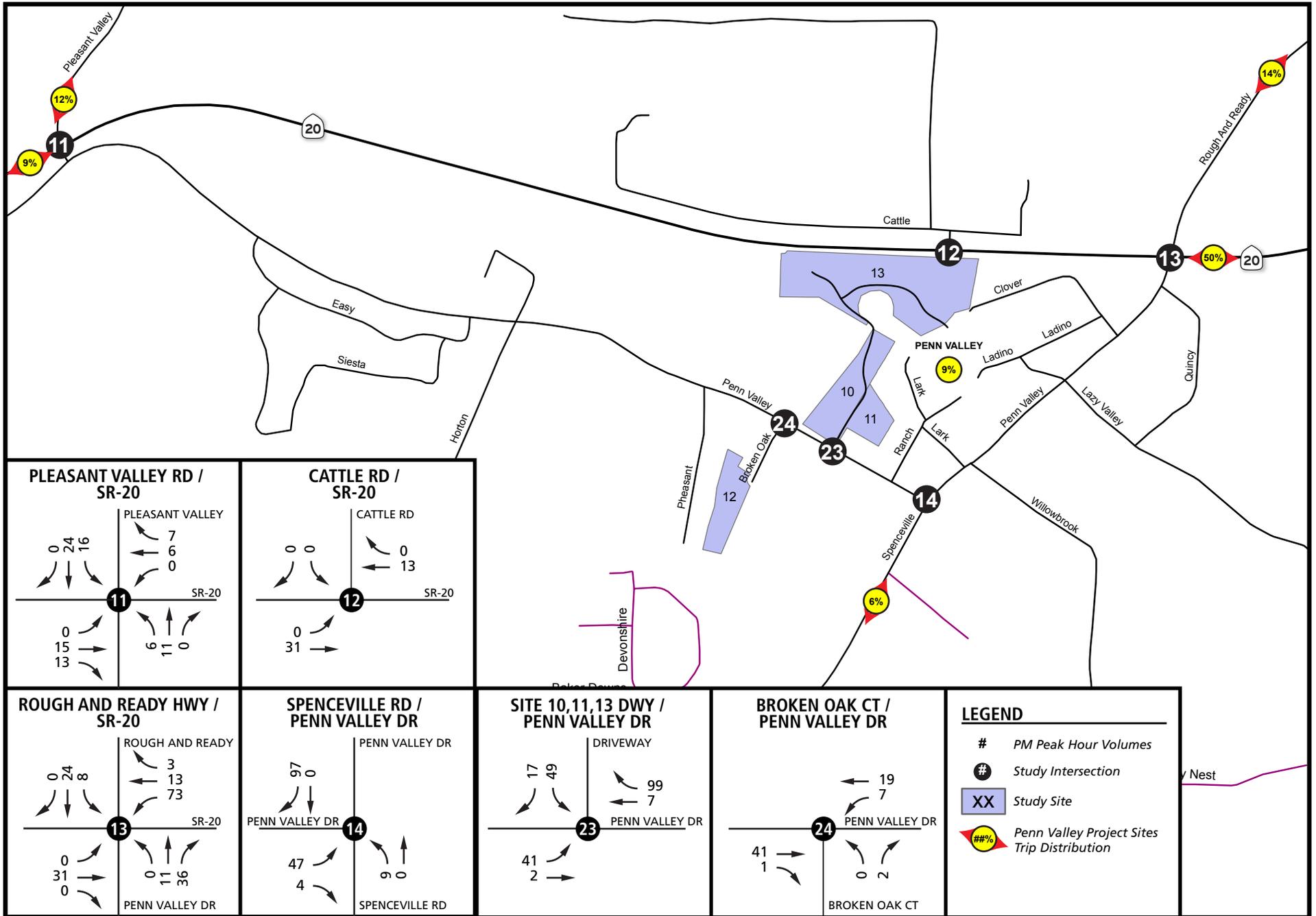


Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA

COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



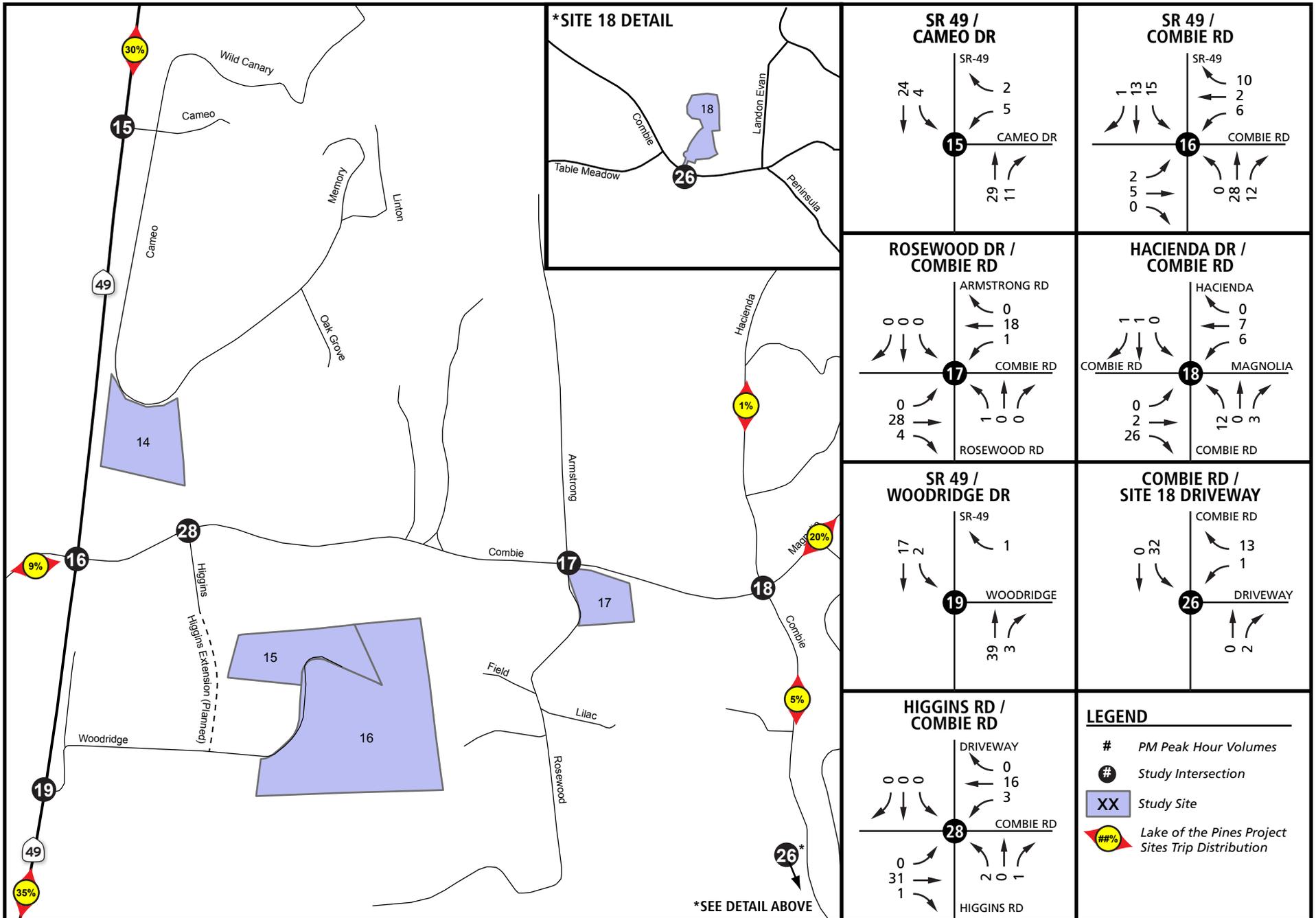


Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

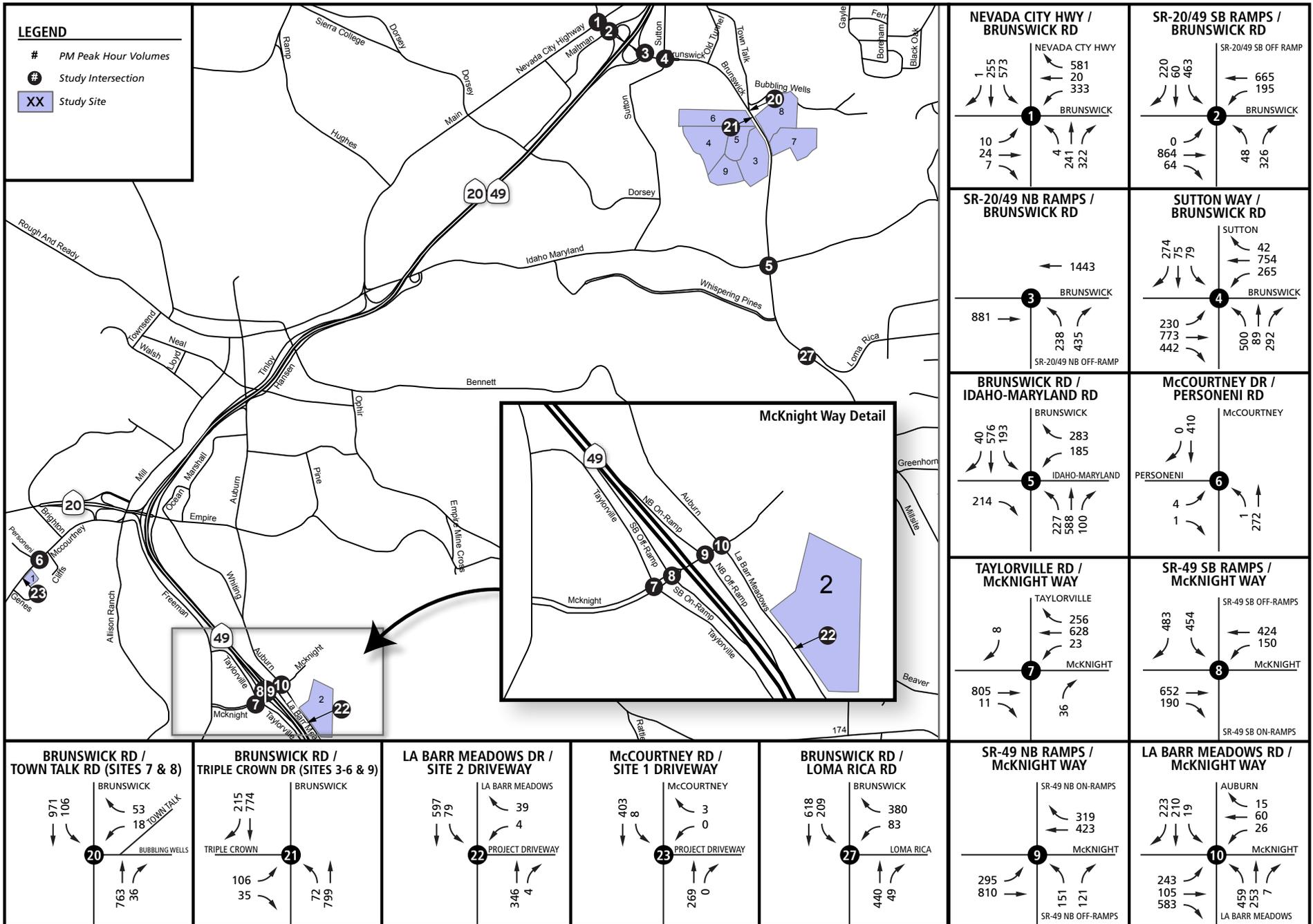
Net Project PM Peak Hour Trip Distribution and Assignment





Source: RBF Consulting 2013 Not to Scale

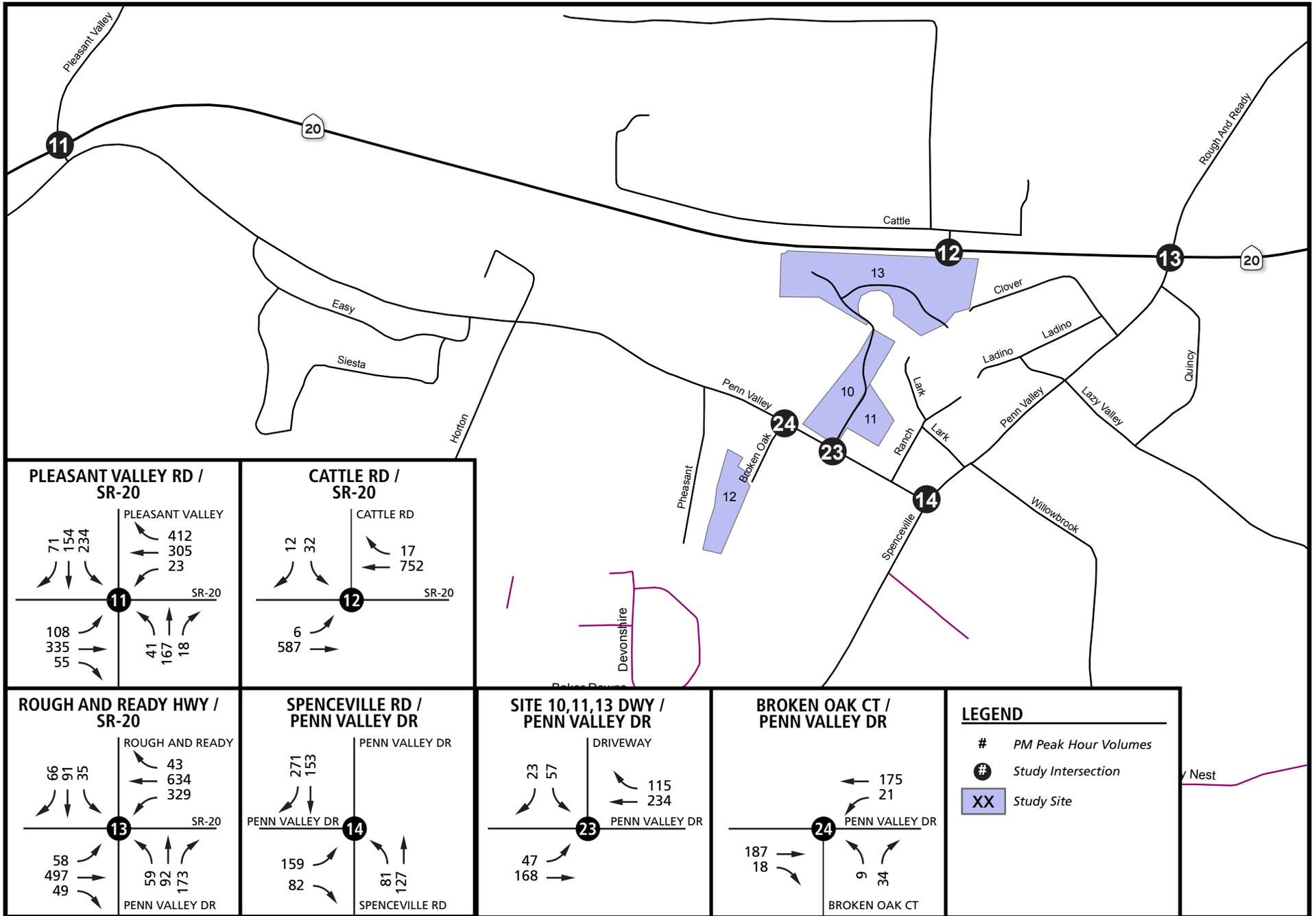




Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



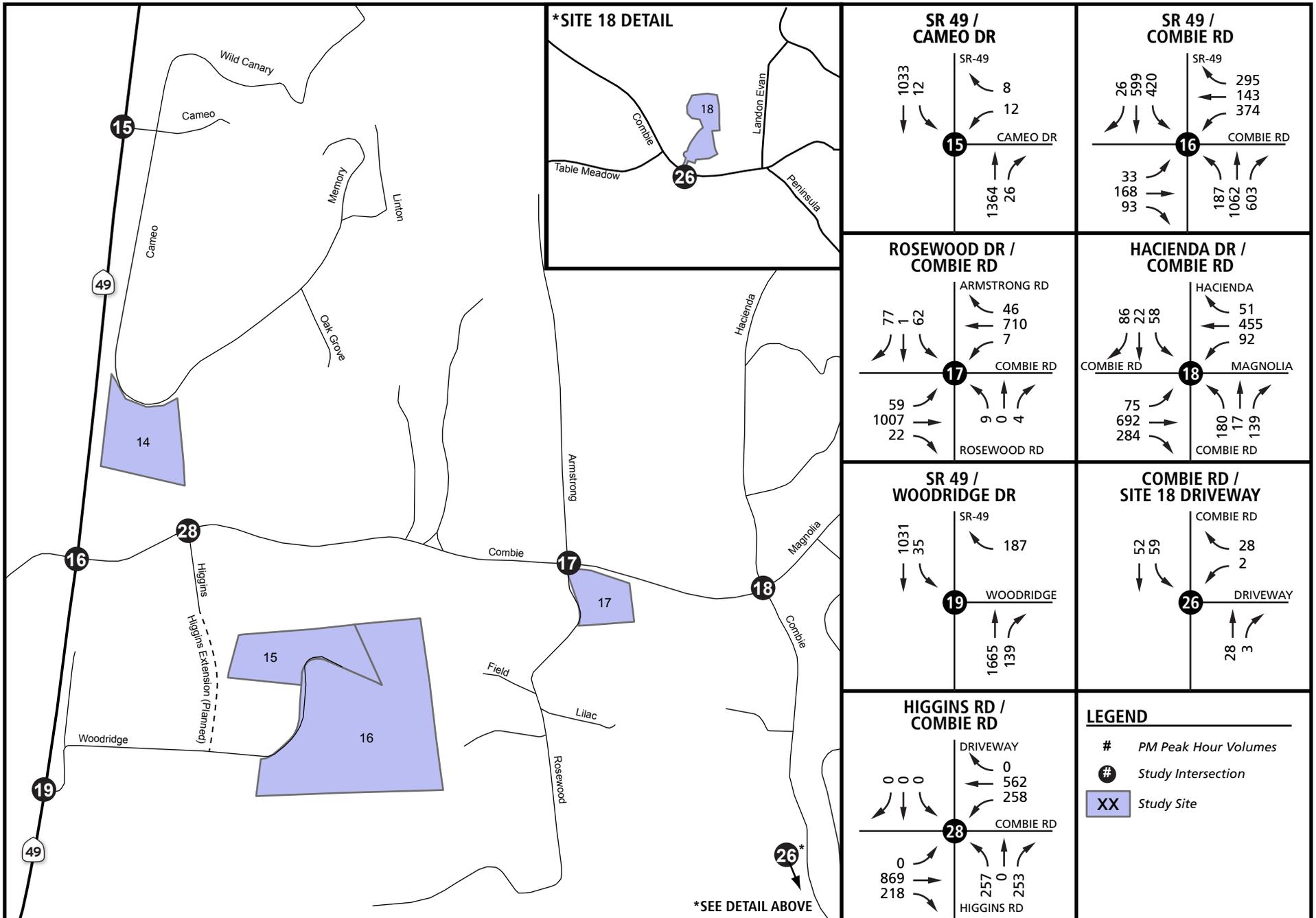


Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Existing + Background + Project PM Peak Hour Traffic Volumes





Source: RBF Consulting 2013 Not to Scale

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Existing + Background + Project PM Peak Hour Traffic Volumes



POTENTIAL IMPACTS AND MITIGATION MEASURES

The following section provides descriptions of potential project related impacts and improvements to mitigate the impacts. Table 4.15-11, *Project Mitigation Triggers*, identifies the mitigation triggers on a site-by-site basis. The sites identified in Table 4.15-11 were determined to trigger mitigation based upon the individual buildout of each site. Figures 4.15-7a-b, *Intersection Mitigations – Cumulative plus Project Conditions*, provide a graphical representation of the proposed improvements to mitigate impacts under Cumulative plus Project Conditions.

**Table 4.15-11
Project Mitigation Triggers
(Under Individual Site Build Out Conditions)**

Intersection	Mitigation Measure #	Number of PM Peak Hour Project Trips Added that Trigger Mitigation	Sites That Will Trigger Mitigation
Grass Valley SOI Study Area			
5. Brunswick Road / Idaho-Maryland Road	4.15-2	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
10. La Barr Meadows Road / McKnight Way	4.15-3	10 Trips	Site 2
21. Brunswick Road / Triple Crown Drive / Sites 3-6, 9	4.15-4	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
Lake of the Pines Study Area			
16. SR-49 / Combie Road	4.15-5	1 Trip	Site 14 Site 15 Site 16 Site 17 Site 18
28. Higgins Road / Combie Road	4.15-6	1 Trip	Site 14 Site 15 Site 16 Site 17 Site 18

Source: RBF Consulting 2013

4.15-1

THE PROPOSED PROJECT WOULD RESULT IN AN INCREASE IN TRAFFIC AT STUDY AREA INTERSECTIONS AND ROADWAY SEGMENTS. TWENTY THREE STUDY INTERSECTIONS WOULD CONTINUE TO OPERATE AT ACCEPTABLE LEVELS OF SERVICE IN ACCORDANCE WITH NEVADA COUNTY AND THE CITY OF GRASS VALLEY SIGNIFICANCE CRITERIA DURING THE WEEKDAY PM PEAK HOUR.

Level of Significance Before Mitigation: Less Than Significant Impact

Impact Analysis

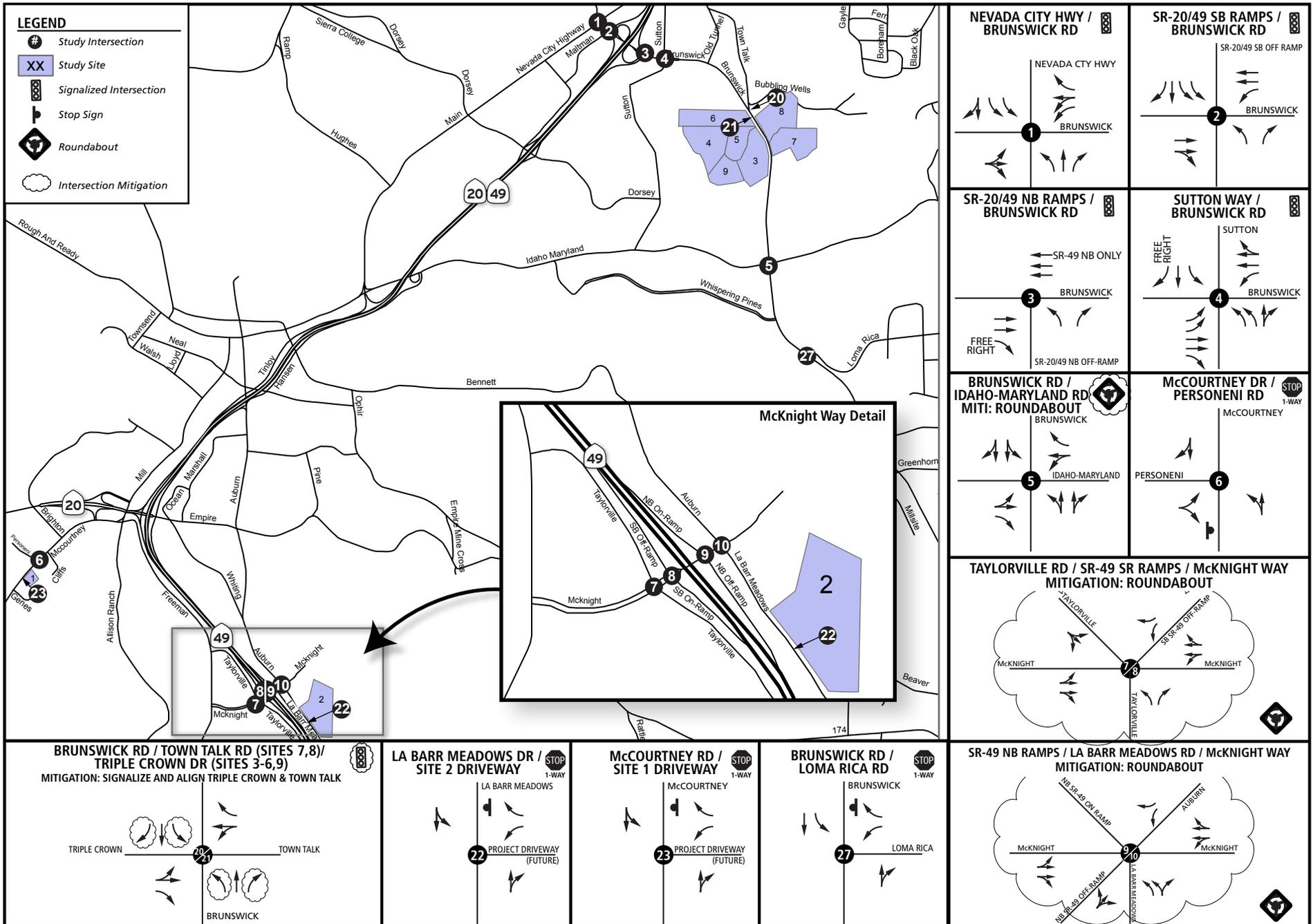
The level of service for the following intersections would remain at an acceptable level of service in accordance with City of Grass Valley (LOS D or better) and Nevada County (LOS D or better in Community Regions, LOS C or better in Rural Regions) significance thresholds and Caltrans (LOS C or better) standards as shown in Table 4.15-9 and 4.15-10.

1. Nevada City Highway/Brunswick Road,
2. SR 20-49 SB Ramps/Brunswick Road,
3. SR 20-49 NB Ramps/Brunswick Road,
4. Brunswick Road/Sutton Way,
6. McCourtney Road / Personeni Way
7. Taylorville Road / McKnight Way
8. SR 49 SB Ramps/McKnight Way,
9. SR 49 NB Ramps/McKnight Way
11. Pleasant Valley Road/ SR 20
12. Cattle Drive / SR 20
13. Penn Valley Drive/ SR 20
14. Spenceville Road / Penn Valley Drive
15. SR 49 / Cameo Drive
17. Rosewood Road / Combie Road
18. Hacienda Drive / Combie Road
19. SR 49 / Woodridge Drive
20. Brunswick Road / Town Talk (Site 7/8 Access Road)
22. McCourtney Road / Site 1 Access Road
23. Penn Valley Driveway / Site 10,11, 13 Access Road
24. Penn Valley Drive / Broken Oak Court (Site 12 Access Road)
26. Combie Road / Site 18 Access Road
27. Brunswick Road / Loma Rica Drive

As the proposed project would not degrade the level of service below LOS D for these intersections, the proposed project would have a less than significant impact at these intersections or LOS C for Caltrans intersections.

Mitigation Measures: No mitigation required.

Level of Significance After Mitigation: Not applicable.



Source: RBF Consulting 2013

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

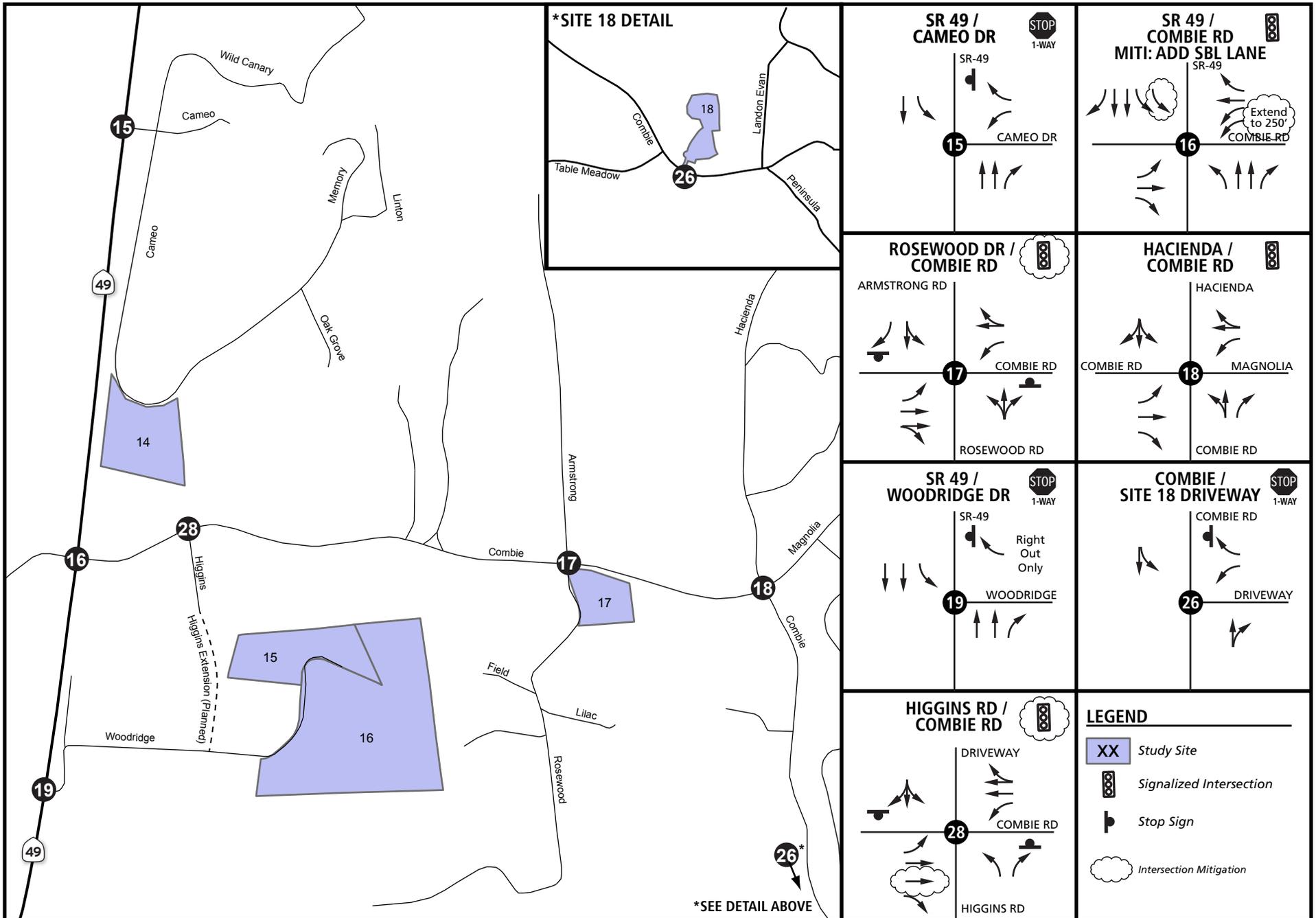


Not to Scale

Intersection Mitigations - Existing plus Background plus Project Conditions

4/21/2013 • JN 131242-18945

FIGURE 4.15-7A



Source: RBF Consulting 2013



Not to Scale

Intersection Mitigations - Existing plus Background plus Project Conditions

7/31/2013 • JN 131242-18945

LAKE OF THE PINES STUDY AREA
COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

FIGURE 4.15-7B

4.15-2 THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTION OF IDAHO-MARYLAND ROAD AND BRUNSWICK ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT LOS F (UNACCEPTABLE) IN THE PM PEAK HOUR.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of Idaho-Maryland Road and Brunswick Road would operate at LOS F without project generated traffic and LOS F during the PM peak hour with the addition of the project-generated traffic. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure applies to Sites 3 through 9:

- 4.15-2 As described in the Loma Rica Ranch Specific Plan EIR (RBF Consulting, 2011), a roundabout shall be constructed at the intersection of Idaho-Maryland Road and Brunswick Road. This intersection is located on the downhill slope. The installation of a roundabout has been shown to reduce the number and severity of accidents. This mitigation would improve the operation of the intersection to LOS A. The improvement is identified in the Grass Valley Traffic Impact Fee (GVTIF).

To mitigate direct traffic impacts on the Idaho-Maryland Road and Brunswick Road intersection, a new roundabout is required at this intersection. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the roundabout in its entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement.

Site Specific Development Analysis: The individual development of Sites 3, 4, 5, 6, 7, 8 or 9 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. This impact remains significant because it is unknown when the intersection improvement would occur, and the construction of the complete improvement may not be feasible for a single project. Furthermore, the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

4.15-3 THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTION OF LA BARR MEADOWS DRIVE AND MCKNIGHT WAY. THIS INTERSECTION IS

PROJECTED TO OPERATE AT LOS F ON THE WORST APPROACH (UNACCEPTABLE) IN THE PM PEAK HOUR.

Level of Significance before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of La Barr Meadows Drive and McKnight Way is anticipated to operate at LOS F without the project and LOS F with the project traffic during the PM peak hour. The intersection meets peak hour Caltrans peak hour signal warrant for the installation of a traffic signal under Existing plus Background plus Project conditions. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure applies to Site 2:

- 4.15-3 The provision of the dual roundabouts on McKnight Way at the SR 49 interchange would improve operation of the intersection to LOS A. This improvement would combine the McKnight Way / La Barr Meadows Road / Auburn Street and McKnight Way / SR 49 Northbound Ramps intersection into one intersection, and the McKnight Way / Taylorville Road and McKnight Way / SR 49 Southbound Ramps intersections into one intersection. Due to the close intersection spacing and the coordinated operation of the intersections, the roundabouts would need to be installed simultaneously in order to adequately accommodate traffic flows. This improvement is identified in the Nevada County Regional Transportation Plan and the City of Grass Valley Capital Improvement Program.

To mitigate direct impacts at the La Barr Meadows Road and McKnight Way intersection, dual roundabouts would be required to be constructed. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the required dual roundabouts in their entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement.

Site Specific Development Analysis: The individual development of Site 2 would generate 10 or more trips at the intersection and require implementation of the intersection mitigation.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. This impact remains significant because it is unknown when the intersection improvement would occur, and the construction of the complete improvement may not be feasible for a single project. Furthermore, the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

- 4.15-4 ***THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTION OF BRUNSWICK ROAD AND***

TRIPLE CROWN ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT AN OVERALL LOS E AND LOS F ON THE WORST APPROACH (UNACCEPTABLE) IN THE PM PEAK HOUR.

Level of Significance before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of Brunswick Road and Triple Crown Road (Sites 3-6 & 9 Access Road) is anticipated to operate at LOS A without the project and an overall LOS E and LOS F on the worst approach with the addition of project traffic during the PM peak hour. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure applies to Sites 3 through 9:

- 4.15-4 The realignment of Triple Crown Road with Town Talk Road into one intersection and the installation of a traffic signal will improve intersections of Brunswick Road and Triple Crown Drive and Brunswick Road and Town Talk Road / Bubbling Wells Road to LOS B during the PM peak hour. The intersection does meet peak hour Caltrans peak hour signal warrant for the installation of a traffic signal under Existing plus Background plus Project conditions. The proposed mitigation includes one additional southbound right turn lane, one southbound left turn lane, one northbound left turn lane and one northbound right turn lane. In addition, the existing unsigned driveway (designated as "Ranchview Court" in County Map data) located approximately 35 feet to the south of Town Talk Road shall be combined with Town Talk Road at the west leg of the intersection.

The project developer shall install or fund the improvement at the intersection prior to issuance of a building permit.

Site Specific Development Analysis: This improvement would be triggered when the proposed project generates 1 or more trip to the intersection of Brunswick Road and Triple Crown Road. The individual development of Sites 3, 4, 5, 6, 7, 8 or 9 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

4.15-5

THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTIONS OF SR 49 / COMBIE ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT LOS F (UNACCEPTABLE) IN THE PM PEAK HOUR.

Level of Significance Before Mitigation: Potentially Significant Impact

The intersection of SR 49 and Combie Road would operate at LOS F without project-generated traffic. The intersection would continue to operate at an unacceptable LOS F with the addition of project traffic. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure applies to Sites 14 through 18:

4.15-5 The Nevada County Regional Transportation Plan and RTMF include the following improvements to the SR 49 / Combie Road intersection. The improvements would improve the PM peak hour level of service to LOS C.

- Construct one additional southbound left turn lane that is at least 325 feet in length
- Construct one additional receiving lane at the east leg of intersection on Combie Road
- Reconstruct or reconfigure the westbound left turn lanes to be a minimum of 250 feet in length to allow for adequate storage

The project applicant shall install or fund the improvement at the intersection. The applicant and the County of Nevada should enter into a reimbursement agreement for the remaining portion of the improvement costs that are not the project applicant's fair share.

Site Specific Development Analysis: This improvement would be triggered when the proposed project generates 1 or more trip to the intersection of SR 49 / Combie Road. The individual development of Sites 14, 15, 16, 17, or 18 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: Nevada County

Level of Significance After Mitigation: Less Than Significant Impact

4.15-6

THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTIONS OF HIGGINS ROAD AND COMBIE ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT LOS F (UNACCEPTABLE) IN THE PM PEAK HOUR.

Level of Significance Before Mitigation: Potentially Significant Impact

The intersection of Higgins Road and Combie Road is anticipated to operate at LOS F on the northbound approach under both without and with project traffic during the PM peak hour. The addition of project will result in increased traffic delay at the intersection during the PM

peak hour and the intersection would meet peak hour signal warrants under Existing plus Background plus Project conditions. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure applies to Sites 14 through 18:

- 4.15-6 The Higgins Marketplace EIR (2007) identified mitigation for this intersection including the installation of a traffic signal and the installation of an additional eastbound through lane. Implementation of this mitigation measure would improve level of service to an acceptable LOS C during the PM peak hour.

Prior to the development of the project site, the Project Developer shall pay a fair share contribution to the LTMF and RTMF program.

Site Specific Development Analysis: This improvement would be triggered when the proposed project generates 1 or more trips to the intersection of Higgins Road and Combie Road. The individual development of Sites 14, 15, 16, 17, or 18 would generate 1 or more trips at the intersection and require implementation of the intersection mitigation.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: Nevada County

Level of Significance After Mitigation: Less Than Significant Impact

- 4.15-7 ***THE PROPOSED PROJECT WOULD ADD TRAFFIC AT NEW DRIVEWAY INTERSECTIONS WHICH WOULD HAVE RESTRICTED SIGHT DISTANCE AND CLOSE SPACING AND MAY IMPACT SAFETY AND TRAFFIC OPERATIONS.***

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

Safety is a concern, and the addition of traffic is considered a potentially significant impact. Several new project driveways would be constructed on the study area street network. Some of these driveways exist as dirt roads only and the exact location may change.

The precise roadway alignments at the site access intersections have yet to be designed, thus existing sight distances were reviewed in the field as it relates to the approximate location of proposed access locations. The following site access intersections were identified to have existing sight distance deficiencies:

- Brunswick Road / Town Talk Road / Bubbling Wells (Access Sites 3-6, 9)
- La Barr Meadows / Access Site 2
- McCourtney Road / Access Site 1
- Brunswick Road / Triple Crown Drive (Access Sites 7-8)
- Penn Valley Drive / Access Sites 10,11,13
- Cameo Drive / Access Site 14
- Combie Drive / Access Site 18

Mitigation Measure:

This mitigation measure applies to all sites:

4.15-7 The sight distances at all project site access intersections shall be reviewed during the design phase of the project sites with attention given to horizontal and vertical sight distance constraints. To maintain adequate corner sight distance consistent with Caltrans Highway Design Manual requirements, parking shall not be permitted on major onsite roadways within close proximity to intersections. All onsite intersections, landscaping, signing, and parking shall be designed so that adequate corner sight distance is achieved.

Prior to issuance of a building permit, the developer shall provide verification by a professional engineer that sight distance has been evaluated.

Level of Significance After Mitigation: Less Than Significant Impact

5.0 GROWTH INDUCING AND CUMULATIVE IMPACTS

5.1 GROWTH INDUCING IMPACTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) evaluate the “growth-inducing” effects of a proposed project. According to Section 15126.2(d) of the *CEQA Guidelines*, growth-inducing effects include:

- Fostering economic or population growth, or the construction of additional housing
- Removing obstacles to population growth
- Taxing existing community services or facilities, requiring the construction of new facilities that could cause significant environmental effects
- Encouraging and facilitating other activities that could significantly affect the environment, either individually or cumulatively

A project can directly or indirectly induce growth. Construction of new housing would directly induce growth. However, if a project creates substantial new permanent employment opportunities, it could indirectly induce growth by stimulating the need for additional housing and services to support the new employment demand. It could also indirectly induce growth by removing infrastructure limitations or regulatory constraints on a required public service, such as roads or water service.

Section 15126.2(d) also states that it must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment. However, it should be noted that growth can be detrimental if it is not consistent with land use plans and growth management policies established to ensure orderly growth and development that is supported by adequate public services. Should a proposed project induce growth beyond planned levels or rates or exceed reliable population projections, it could indirectly cause additional adverse impacts on the environment and public services beyond those identified, mitigated or acknowledged in local planning documents. Therefore, this growth inducement analysis evaluates the consistency of the growth caused or induced by the proposed project with the growth envisioned for the Nevada County General Plan and by the City of Grass Valley 2020 General Plan.

5.1.1 FOSTER ECONOMIC GROWTH

The proposed project would provide opportunities for new high density residential units within the unincorporated areas of Nevada County and some areas of the Grass Valley SOI area. The purpose of creating the RH Overlay zone is to provide high density housing opportunities to meet existing and proposed growth demands for affordable housing. The implementation of the proposed overlay area would allow up to a maximum yield of 2,680 high density residential units. The development and timing of these units would depend on demand for this type of housing and other market conditions that would make construction feasible.

While the project would generate some short-term construction opportunities during development on the project sites, any construction jobs would be short-term and would cease upon completion of the project. The development of housing on these sites would not

generate any direct or indirect long term employment opportunities. Therefore, the proposed project is not anticipated to foster economic growth beyond what has been anticipated in the Nevada County General Plan or the City of Grass Valley General Plan.

5.1.2 POPULATION AND HOUSING GROWTH

The analysis of cumulative population and growth impacts considers the larger context of future development of the County and City as envisioned by their General Plans and relies upon the projections of those plans. Future development under the proposed project and the County of Nevada and City of Grass Valley General Plans, together with approved and proposed projects, would result in an increased population and the need for additional housing.

As described above, the project's estimated population of 2,960 residents in Grass Valley and 2,438 residents in Nevada County represents approximately 13 percent of the City's and 28 percent of the County's anticipated population growth and would occur over a 10- to 20-year timeframe. As such, the proposed project would result in an increase in population and growth estimates over what was identified in the General Plan. However, the proposed project would be developed to accommodate future population demand and most importantly, the need for affordable housing in the area.

5.1.3 REMOVE OBSTACLES TO GROWTH

Several types of projects can induce population growth by removing obstacles that prevent growth. An example of this type of project would be the expansion of a wastewater treatment plant, which would accommodate additional sewer connections within the service area and, therefore, would allow future construction and growth.

Some sections of the County's existing wastewater treatment system would be unable to accommodate the anticipated wastewater generation from some of the project sites, requiring upgrades prior to development in those areas. In addition, new road improvements would be required to address constrained traffic intersections. Increased traffic capacity on some roadways may result in additional development becoming feasible because needed roadway improvements are in place. The expansion of infrastructure needed for the proposed project may remove barriers that currently inhibit growth within the project area and would result in the potential impacts discussed throughout this EIR, but anticipated within the County General Plan and the City's 2020 General Plan.

5.1.4 CONCLUSION

The proposed project would foster limited economic growth by providing short-term construction opportunities within the unincorporated County and within the Grass Valley SOI. It would also directly induce population growth through the construction of new housing units. Finally, it would remove obstacles to growth by expanding infrastructure to the project area. Regardless, the opportunities to provide a housing mix that includes high density housing created by the project would be consistent with the County's desire to create a healthy economic base for the community, and the project's potential increase in population would be within the County and City of Grass Valley population estimates for its future. Finally, the obstacles to growth removed by the project would be necessary to accommodate the proposed housing opportunities. Nonetheless, no growth-related impacts beyond the environmental impacts discussed in Chapter 4 of this EIR are anticipated.

5.2 CUMULATIVE IMPACTS

Section 15130 of the *CEQA Guidelines* requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. A cumulative impact is created as a result of the combination of the project evaluated in the EIR together with other reasonably foreseeable projects causing related impacts. Cumulative impacts analyses are included in Sections 4.2 through 4.15 in their entirety and are summarized below.

In the case of a planning document such as a Housing Element Rezone Implementation Program, cumulative effects occur from development under the proposed project combined with effects of development on lands around the City and region. In each section of Chapter 4 and below, the cumulative impacts of the proposed project take into account growth projected by the County General Plan and the Grass Valley 2020 General Plan, in combination with impacts from other recently approved and reasonably foreseeable projects. Cumulative impacts may occur over different geographic areas. The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants, and basin wide projections of emissions are the best tool for determining the cumulative effect. Table 5-1, *Cumulative Projects Considered*, lists the approved, but not yet constructed cumulative projects within the Cumulative Study Area. Table 5-2, *Geographic Areas for Cumulative Impact Analysis*, provides a summary of the different geographic areas used to evaluate each cumulative impact. Each of the projects and its relative location to the proposed project sites is shown in Figure 5-1, *Cumulative Project Locations Map*.

5.2.1 LAND USE AND PLANNING

The analysis of cumulative land use and planning impacts considers the larger context of future development of Nevada County and City of Grass Valley as envisioned by their respective General Plans and relies upon the projections of those plans and associated EIRs. Cumulative land use impacts would result from incremental changes in land use that cause substantial disruption within the established community or conflicts with adopted plans and policies related to avoidance or mitigation of environmental effects. Currently, the proposed project sites are mainly undeveloped. The area surrounding the site is either developed with low to medium density residential uses or business and industrial parks.

Both the Nevada County General Plan and the City of Grass Valley's 2020 General Plan EIR analyzed the long-term development in the region and found that no significant impacts relative to land use and planning would occur with implementation of these plans. Both the County General Plan and the City 2020 General Plan anticipate future development of the proposed project areas. However, the proposed project would increase the allowable number of residential units through the rezoning of existing commercial and industrial land uses compared to the projections of the Nevada County General Plan and the City's 2020 General Plan and 2020 General Plan EIR. Thus, the proposed project would potentially allow more population growth and reduce job-generating uses compared to the projections of those plans. Nonetheless, these changes would not cause substantial disruption within the established community or conflicts with adopted plans and policies related to avoidance or mitigation of environmental effects for the County of Nevada. However, the proposed change in land use

density to high density residential (20 dwelling units per acre) within the Grass Valley Sphere of Influence would conflict with the City’s existing medium density (4-8 dwelling units per acre) and mixed use density land use designations because the proposed density is higher. Although mitigation is included that would require the County and City of Grass Valley to develop an agreement to address proposed density changes, the conflicts would remain significant until there was a change in the Grass Valley General Plan. Other projects within the cumulative study area would have to address their own consistency with the City’s General Plan densities and land use policies. Changes proposed by other projects within the Grass Valley Sphere of Influence would be required to address any land use conflicts with the General Plan. No potential conflicts with other projects that would result in cumulatively considerable land use conflicts have been identified.

**Table 5-1
 Cumulative Projects Considered**

Project Name	Type of Development	Number of Units or Square Footage	Status	Distance from Project Area
Grass Valley SOI				
Sierra Terrace	Single Family Detached Homes Residential Condo/Townhouse Apartment	14 Units 8 Units 14 Units	Approved	Approximately 1.5 miles from Sites 3-9 in Grass Valley
Makiah Woods	Single Family Detached Homes	49 Units	Approved	Adjacent to Site 6
Gold Country Village	Senior Housing	175 Units	Approved	Approximately 1 mile from Sites 3-9 in Grass Valley
314 Railroad Avenue	General Office	27,596 SF	Approved	Approximately 1.2 miles from Sites 3-9 in Grass Valley
Ridge Meadows	Single Family Detached Homes	49 Units	Approved	Approximately 2 miles from Sites 3-9 in Grass Valley
Ridge Village	Single Family Detached Homes	55 Units	Approved	Approximately 2 miles from Sites 3-9 in Grass Valley
Loma Rica	Mixed Use – Residential, Commercial, Business Park, Open Space	700 Low, Medium and High Density Residential Units; 54,000 SF of Mixed Commercial and Retail; maximum 364,161 SF Business and Light Industrial; 313.9 Acres of Open Space, Parks and Farmland	Approved	Adjacent to Sites 3, 7, and 9 in Grass Valley
Wolf Creek Village	Single Family Detached Homes	40 Units	Approved	Approximately 0.5 miles from Site 2 in Grass Valley
Berriman Ranch	Single Family Detached Homes	121 Units	Approved	Approximately 0.25 miles from Site 2 in Grass Valley
Village at South Auburn	Single Family Detached Homes Retail / Office	49 Units 23,264 SF	Approved	Approximately 0.5 miles from Site 2 in Grass Valley
Milco II	Light Industrial	57,315 SF	Approved	Approximately 0.8 miles from Sites 3-9 in Grass Valley
Victoria Grove	Single Family Detached Homes	72 Units	Approved	Approximately 0.6 miles from Site 2 in Grass Valley

Table 5-1, continued

Project Name	Type of Development	Number of Units or Square Footage	Status	Distance from Project Area
Grass Valley SOI				
Bear River Mill Site SDA	Single Family Detached Homes Residential Condo /Townhouses Light Industrial Commercial, and Business Park	420 Acres	Notice of Preparation	Includes Site 2 and surrounding SOI Area
Dorsey Drive Interchange	Roadway Improvements	N/A	Approved	Intersection of Dorsey Drive and State Route (SR) 20/49
Penn Valley Area				
PV Oaks	Commercial Single Family Detached Homes	12,100 SF 19 Units	Approved	Same location as Site 11
Lake of the Pines Area				
Higgins Marketplace	Specialty Retail Supermarket Fast Food Office	19,700 SF 59,800 SF 7,000 SF 41,100 SF	Approved	Adjacent to Sites 15 and 16
Bear River Plaza	General Office/ Specialty Retail Multi-Family Residential	40,000 SF 28 Units	Approved	Approximately 0.2 miles east of Site 17 in Lake of the Pines Area
HBT – Cascade Crossing	Single Family Detached Homes	80 Units	Approved	Approximately 0.1 miles west of Site 17 in Lake of the Pines Area
Rincon Del Rio	Single Family Attached and Detached Retirement Homes	345 Units	Approved	Approximately 2.7 miles south of Site 14.

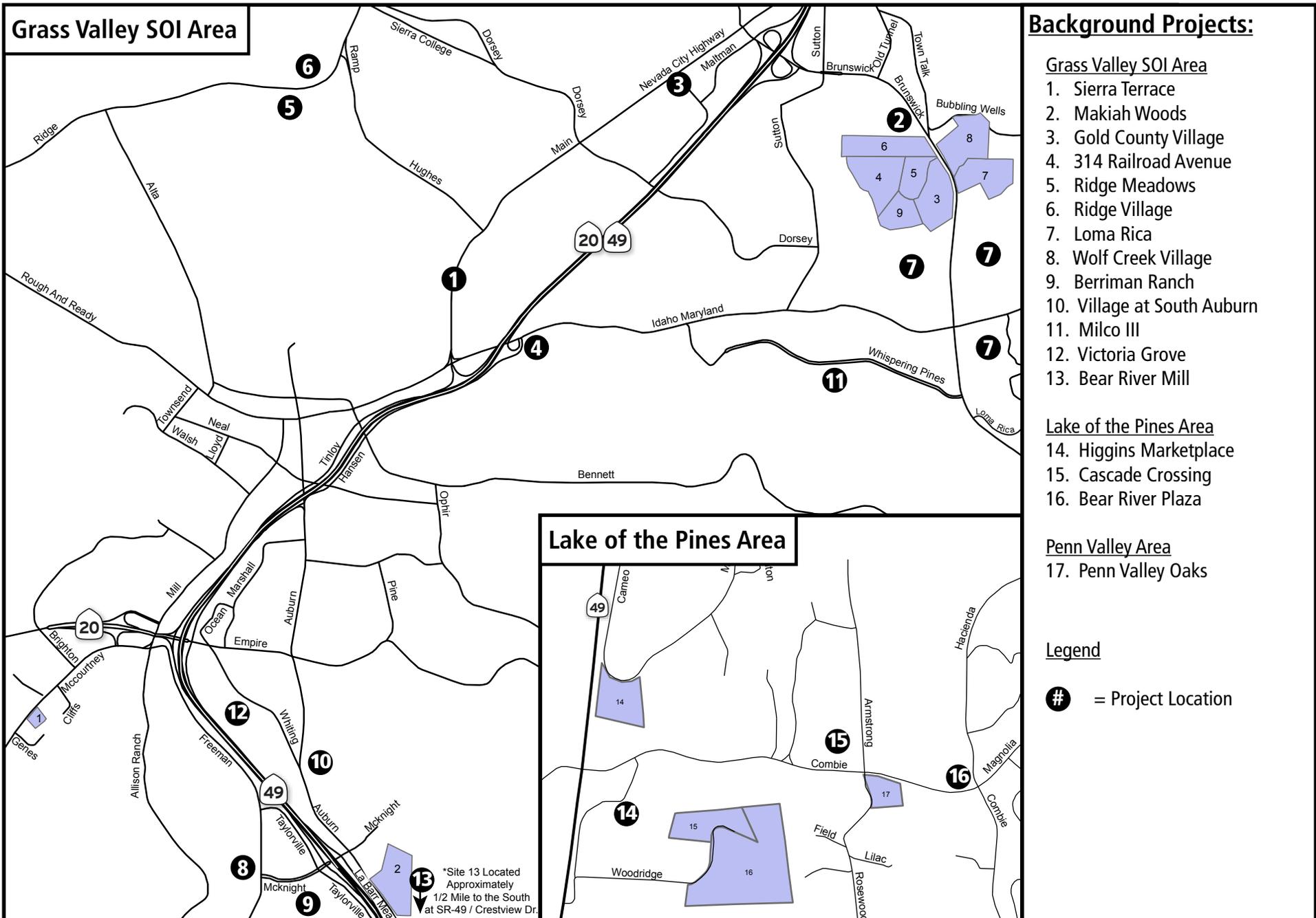
Source: Nevada County / City of Grass Valley, 2012

**Table 5-2
 Geographic Areas for Cumulative Impact Analysis**

EIR Section	Geographic Area for Cumulative Impact Analysis
4.2 Land Use and Planning	County Planning Areas and Grass Valley Sphere of Influence
4.3 Aesthetics	County Planning Areas and City Sphere of Influence Area
4.5 Air Quality	Northern Sierra Air Quality Management District (NSAQMD) for cumulative criteria pollutant impacts California, the U.S., and the world for global climate change
4.6 Biological Resources	Wildlife and plant habitats of affected species in the region, including woodland, forest, chaparral, riparian, wetland, and grassland communities as well as aquatic habitat in the Wolf Creek, Squirrel Creek and Ragsdale Creek watersheds and other downstream watersheds
4.7 Cultural Resources	County Planning Areas and Grass Valley Sphere of Influence
4.8 Geology and Soils	County Planning Areas and Grass Valley Sphere of Influence
4.9 Hazards and Hazardous Materials	The area that could be affected by proposed project activities and the areas that could be affected by other projects whose activities could directly or indirectly affect the presence or fate of hazardous materials on the proposed project site
4.10 Hydrology and Water Quality	The area within and immediately adjacent to the project site and downstream of the project site on Wolf Creek, Squirrel Creek, and Ragsdale Creek.
4.11 Noise	County Planning Areas and Grass Valley Sphere of Influence
4.12 Population and Housing	County Planning Areas and Grass Valley Sphere of Influence
4.13 Public Services, Utilities and Service Systems	County Planning Areas and Grass Valley Sphere of Influence
4.14 Recreation	County Planning Areas and Grass Valley Sphere of Influence
4.15 Transportation/Traffic	County Planning Areas and Grass Valley Sphere of Influence

5.2.2 AESTHETICS

As described in Section 4.3, implementation of the proposed project would not significantly alter existing views of scenic vistas or the character of the project area with implementation of recommended mitigation measures. Future development under the proposed project, Nevada County General Plan, and the City of Grass Valley 2020 General Plan, and approved and proposed projects would potentially result in alteration of the existing rural and natural landscape of the region if not mitigated. Individual projects proposed within the proposed project area must be designed consistent with policies established in the Nevada County General Plan and Western Nevada County Development Guidelines and the City of Grass Valley 2020 General Plan and Community Design Guidelines. The Guidelines for each jurisdiction have been adopted for the specific purpose of reviewing development proposals to ensure that proposed development projects are designed in ways that are in harmony and compatible with the existing landscape and surrounding development. The Guidelines for both jurisdictions would apply to multi-family residential projects.



Source: RBF Consulting 2013

COUNTY OF NEVADA

2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



Not to Scale

The Guidelines provide design considerations that project developers are encouraged to incorporate in the project planning process. Examples of design considerations from the Guidelines include, but are not limited to the following:

- Site design and layout;
- Building materials (including colors);
- Environmentally sensitive design;
- Landscaping;
- Common areas;
- Parking lot design and placement; and
- Lighting.

Projects within the unincorporated area of Nevada County will be reviewed by County staff to ensure a development proposal is consistent with the Western Nevada County Development Guidelines. Likewise, projects within the City of Grass Valley SOI will be reviewed by the City's Design Review Committee.

The most intense cluster of cumulative development is located along Brunswick Road from Old Tunnel Road to Whispering Pines where the Makiah Woods, Sites 3 through 9, and the Loma Rica Ranch projects are located adjacent to each other within the Grass Valley SOI area. These projects propose residential, medical, and retail uses. Project designs consistent with the City's Community Design Guidelines and review by the Design Review Committee will be the mechanism with which these projects will incorporate existing natural features such as densely forested land and intervening topography with design requirements such as setbacks and coordinated access points, to minimize the visibility from areas immediately surrounding the project site. It should be noted that Sites 3, 4, 5, and 9 are owned by the same property owner and proposed multi-family development on those sites would be done as one project to ensure cohesiveness in design. The combined effect of these projects could have a significant impact on the visual character of the existing Brunswick Road corridor. The proposed project's contribution to this impact is considered cumulatively considerable and mitigation is required.

Another area of cumulative development is in the Lake of the Pines Area near the SR 49 and Combie Road intersection where the proposed Higgins Marketplace, and Sites 14, 15, and 16 are located. Each of these project sites is visible from SR 49. The Higgins Marketplace site and Sites 15 and 16 are located adjacent to each other. Similar to the situation discussed above, the combined effects of these projects could have a significant effect on the stretch of SR 49 between Woodbridge and Combie Road. The proposed developments would be most noticeable in the northbound direction because Site 14 is on a south-facing slope and the Higgins Marketplace, and Sites 15 and 16 are visible from the roadway. In the southbound direction, Site 14 will not be as visible because it is facing away from southbound travelers, and the existing development at Higgins Corner blocks most of the view of Sites 15 and 16. The proposed project's contribution to this impact is considered cumulatively considerable and mitigation is required.

Impacts are typically mitigated separately for each project. Cumulative impacts can be mitigated to less than significant levels with use of building materials that are consistent with the general character of the area, landscaping design, scenic resource preservation, open space conservation, and proper lighting techniques to direct light onsite and away from adjacent properties. As the proposed project areas develop, the visual impacts to the existing

scenic resources and rural character of the community would be reduced to less than significant levels upon implementation of recommended mitigation measures. Further, projects proposed within the proposed project area would be analyzed on a project-by-project basis. Projects would be subject to the County's and the City's Development Review process which would provide design and aesthetic requirements. The Development Review process would ensure building design, site planning, lighting, and tree protection are consistent with the Nevada County General Plan, the City of Grass Valley's 2020 General Plan, and Development Code. Any inconsistencies with County or City standards discovered during the Design Review process would warrant additional conditions of approval.

Mitigation Measures:

The following mitigation measures apply to all sites:

Mitigation Measures 4.3-1, 4.3-3, and 4.3-4.

With implementation of the mitigation measures from Section 4.3, cumulatively considerable aesthetic impacts would be reduced to less than cumulatively considerable levels.

5.2.3 AIR QUALITY

The candidate sites and the surrounding area as a whole must be considered for the purpose of evaluating air quality issues on a cumulative level. In particular, the cumulative setting for air quality includes existing, approved, proposed, and reasonably foreseeable development in the NSAQMD. The County is within an area classified as nonattainment for federal and state O₃ and state PM₁₀ standards.

In order to improve air quality and attain the health-based standards, reductions in emissions are necessary within the nonattainment area. The project would result in additional vehicular travel to and from the candidate sites, with the resultant exhaust emissions that contain ozone precursors and particulate matter. Construction impacts, coupled with existing conditions, could create cumulative impacts from particulate matter generation. The rapid growth and combined population, vehicle usage, and business activity within western Nevada County, to which the project would cumulatively contribute, would either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset project-related emission increases.

The proposed project and related cumulative projects would comply with NSAQMD rules and requirements, and implement all feasible mitigation measures. According to Table 4.5-4, the proposed project would exceed the NSAQMD thresholds of significance during project operations for regional criteria pollutants. The proposed project would be required to implement features identified by the NSAQMD Draft Guidelines to mitigate emissions. Also, implementation of Mitigation Measure 4.5-2 would reduce area source emissions. However, on a cumulative basis, operational impacts from mobile and area sources would be significant and unavoidable.

Additionally, the CO hotspots analysis included various cumulative projects in the project vicinity and regional growth. Therefore, CO hotspot concentrations calculated at these intersections include the cumulative traffic effect. As seen in Table 4.5-5, no significant cumulative CO impacts would occur.

General Plan Goals and Policies: General Plan Goals RD-4.1 through RD-4.4, Policy 14.2, General Plan Policy 14.4, Policy 14.7, and Policy EC-8.6.4.

Mitigation Measure:

The following mitigation measures apply to all sites:

Implement Mitigation Measures 4.5-1a, 4.5-1b, and 4.5-2.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

5.2.4 GREENHOUSE GAS EMISSIONS

As stated above, implementation of the Housing Element Rezone would result in a significant impact regarding GHG emissions, as the project would result in an increase of GHG emissions under buildout conditions. The proposed Housing Element Rezone would be consistent with Nevada County General Plan policies to reduce energy and water consumption as well as vehicle emissions.

On December 30, 2009, the Natural Resources Agency adopted the CEQA Guideline Amendments prepared by Office of Planning and Research (OPR), as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010. The Natural Resources Agency originally proposed to add subdivision (f) to section 15130 to clarify that sections 21083 and 21083.05 of the Public Resources Code do not require a detailed analysis of GHG emissions solely due to the emissions of other projects. Rather, the proposed subdivision (f) would have provided that a detailed analysis is required when evidence shows that the incremental contribution of the project's GHG emissions is cumulatively considerable when added to other cumulative projects. Analysis of GHG emissions as a cumulative impact is consistent with the analysis required under the National Environmental Policy Act. Other portions of the CEQA Guideline Amendments address how lead agencies may determine whether a project's emissions are cumulatively considerable (e.g., Proposed Sections 1506(h) (3) and 15064.4). However, public comments noted that the new subdivision merely restated the law, and was capable of misinterpretation. The Natural Resources Agency, therefore, determined that because other provisions of the CEQA Guideline Amendments address the analysis of GHG emissions as a cumulative impact, and because the reasoning of those is fully explained in the Initial Statement of Reasons, subdivision (f) should not be added to the CEQA Guidelines. The deletion was reflected in the revisions that were made available for further public review and comment on October 23, 2009.

It is generally the case that an individual project is of insufficient magnitude to influence climate change or result in a substantial contribution to the global GHG inventory.¹ GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.² The additive effect of project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. However, as stated above, at this programmatic stage of analysis, GHG impacts associated with implementation of the Housing Element Rezone would result in a significant impact regarding GHG emissions due to the amount of development that would occur in the County. Additionally, the Housing Element Rezone's GHG emissions in combination with GHG emissions from other known and reasonably foreseeable projects would result in a greater amount of GHG emissions. Therefore, the amount of cumulative GHG emissions would be cumulatively considerable, and would potentially hinder the intent

¹ California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

² Ibid.

and statewide reduction goals of AB 32. Impacts in this regard would be significant and unavoidable.

General Plan Goals and Policies: Refer to General Plan Goals RD-4.1 through RD-4.4, EP-4.3, EP-4.4, and EC-8.2, and Policies RD-4.3.4, 14.2, 14.4, and 14.7, and Program EC-8.6.8.

Mitigation Measures: No additional mitigation has been identified.

Level of Significance After Mitigation: Significant and Unavoidable Impact

5.2.5 BIOLOGICAL RESOURCES

The analysis of cumulative biological resource impacts considers the larger context of future development of the County as envisioned by the County General Plan and relies upon the projections of the 1995 General Plan and General Plan EIR. Cumulative biological resource impacts would result from incremental changes that damage or destroy habitat or result in direct mortality of special-status or otherwise protected species within the County.

The proposed project has the potential to result in future development that could convert approximately 150 acres of potential terrestrial habitat to a developed condition, which could result in direct and indirect adverse impacts to common, special-status, and other protected species that rely on habitat provided on the RH Combining District candidate parcels. The majority of impacted habitat within the proposed rezone parcels is comprised of woodland, forest, and non-native annual grassland habitats. These vegetation communities provide habitat for a wide variety of plant and wildlife species. Implementation of the mitigation measures prescribed in Section 4.4 would ensure that impacts to sensitive and high value habitats, such as riparian zones and wetlands, and to special-status species of wildlife and plants would be less than significant.

The conversion to a developed condition of lower sensitivity habitat types, such as oak woodland communities, coniferous forest, chaparral, and non-native annual grasslands would result in a substantial reduction in habitat availability for common wildlife and plant species. However, in the existing condition, the sites are zoned for a variety of uses, including office and business uses, residential planned development, large lot residential agricultural uses, commercial, and industrial. Land use is discussed in greater detail in Section 4.2 of this EIR. Development under the existing zoning and land use designations could result in similar conversions of habitat as development that would be permitted under the proposed rezoning project and would result in loss and fragmentation of habitat for common species. The 1995 Nevada County General Plan EIR concluded that with implementation of policies in the General Plan, buildout under the General Plan would result in less than significant impacts from habitat loss and fragmentation, loss of oak trees, loss of deer habitat, impacts to special-status species, loss of wetlands and degradation of water quality, and loss of riparian habitat. The project would not substantially alter the overall buildout envisioned under the General Plan and would contribute little to increasing the significance of the impacts of buildout under the General Plan. Contribution of the project to cumulative impacts to biological resources would not be cumulatively considerable.

5.2.6 CULTURAL RESOURCES

The analysis of cumulative cultural resource impacts considers the larger context of future development of the County as envisioned by the County General Plan and relies upon the projections of the 1995 General Plan and General Plan EIR. Cumulative cultural resource

impacts would result from incremental changes that damage or destroy cultural resources within the proposed project area.

The proposed project has the potential to result in future development that could damage or destroy potentially significant cultural resources, as well as encounter unanticipated subsurface archaeological deposits or human remains, resulting in their damage or destruction because their subsurface presence cannot be conclusively ruled out. Mitigation Measures 4.7-1a through 4.7-1d and 4.7-3 would help to protect potentially significant recorded and unknown cultural resources from damage, destruction, or information loss as a result of future development. Therefore, implementation of these mitigation measures, along with implementation of similar mitigation measures by other projects in the County's Planning Area, would prevent the project from cumulatively contributing to the damage or destruction of cultural resources.

5.2.7 GEOLOGY AND SOILS

The analysis of cumulative geology and soils impacts considers the larger context of future development in Nevada County as envisioned by the 1995 General Plan and the City of Grass Valley as envisioned by the 2020 General Plan. The analysis relies upon the projections of the 1995 Nevada County General Plan and General Plan EIR for Sites 10-18 as well as the City of Grass Valley 2020 General Plan and General Plan EIR for Sites 1-9. As described above, future development would not result in significant effects associated with secondary seismic hazards (ground shaking, differential compaction, liquefaction, seismically induced flooding and landslides), soil erosion, unstable soils, expansive soil, shallow mining excavation, or shallow resistant rock with adherence to applicable state and local regulations, codes and requirements and the implementation of Mitigation Measures 4.8-1, 4.10-1a and 4.10-1b. None of the cumulative projects would reasonably be expected to be affected by the exact same geology, soils or seismicity impacts as the proposed project due to the unique characteristics of each site. Therefore, the proposed project's geology, soils, and seismicity impacts would not be cumulatively considerable.

5.2.8 HAZARDS AND HAZARDOUS MATERIALS

For hazards and hazardous materials, the study area considered for the cumulative impact of other projects consists of: (a) the area that could be affected by proposed project activities; and (b) the areas that could be affected by other projects whose activities could directly or indirectly affect the presence or fate of hazardous materials on the proposed project site. The proposed project would not transport hazardous materials (mine waste stockpiles or impacted soils) offsite. Additionally, additional hazardous materials investigations on a project-by-project basis would reduce the existing human health risk from on- and off-site contamination.

Compliance with local, state, and federal regulations would ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public on a case-by-case basis, as the cumulative projects are implemented. Impacts in this regard are less than significant with compliance of applicable local, state, and federal regulations and implementation of recommended mitigation measures.

5.2.9 HYDROLOGY AND WATER QUALITY

The analysis of cumulative hydrology and water quality impacts considers the larger context of future development in the County of Nevada, and as envisioned by the 1995 Nevada County General Plan (for sites 10-18) and the 2020 Grass Valley General Plan (for Sites 1-9). Cumulative impacts on hydrology and water quality would not result in any significant hydrology or water quality impacts with adherence to state and local regulations and the implementation of mitigation measures. Adherence to these state and local regulations and implementation of Mitigation Measures 4.10-1a and 4.10-1b, 4.10-6, along with implementation of similar mitigation measures for other cumulative projects, would prevent cumulative impacts on hydrology and water quality from being cumulatively considerable. As discussed in Section 4.10, future development of the proposed project areas would not result in any significant impacts with the implementation of mitigation measures. In addition, future development within the project vicinity would be guided by the 1995 County of Nevada General Plan and the City of Grass Valley 2020 General Plan, and associated planning and environmental documents. Cumulative impacts on hydrology and water quality would not be cumulatively considerable.

5.2.10 NOISE

Cumulative Short-Term Construction Noise

The project developer has no control over the timing or sequencing of related projects, and as such, any quantitative analysis to ascertain the daily construction noise that assumes multiple, concurrent construction projects would be speculative. Under a worst-case scenario, construction activities for all related projects would occur simultaneously. However, construction-related noise for projects proposed under the Housing Element Rezone Implementation Program, as well as cumulative projects, would be localized. Since construction activities are exempt from the County Noise Ordinance, Mitigation Measures 4.11-1a and 4.11-1b would require BMPs to reduce short-term construction noise to a less than significant level.

Construction noise impacts would cease upon completion of excavation, grading and building activities. Compliance with site-specific mitigation, as well as compliance with the County Code requirements, would serve to minimize the length of time noise-sensitive receptors are exposed to significant noise levels. Additionally, because noise dissipates as it travels away from its source, noise impacts from construction activities would be limited to each of the respective sites and their vicinities. Therefore, a less than significant impact would occur in this regard.

Cumulative Operational Noise

Projects proposed under the Housing Element Rezone Implementation Program would introduce the use of stationary equipment that would increase noise levels within the area. Based on the long-term stationary noise impact analysis, impacts would be less than significant. Additionally, future projects would not result in stationary long-term equipment that would significantly affect surrounding sensitive receptors. Furthermore, future development proposals within the County would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Thus, cumulative noise exposure for long-term operations would result in a less than significant impact.

Cumulative Mobile Noise

The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the proposed project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the project's incremental effects then are analyzed. The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative with project" condition to "existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

Combined Effects. The cumulative with project noise level ("Cumulative With Project") would cause a significant cumulative impact if a 3 dBA increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

Incremental Effects. The "Cumulative With Project" causes a 1 dBA increase in noise over the "Cumulative Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Consequently, only proposed projects and growth due to occur in the general vicinity of the project site would contribute to cumulative noise impacts. Table 5.2.10-1, *Cumulative Traffic Noise Scenario*, lists the traffic noise effects along roadway segments in the project vicinity for "Existing," "Cumulative Without Project," and "Cumulative With Project," including incremental and net cumulative impacts.

First, it must be determined whether the Cumulative With Project Increase Above Existing Conditions (*Combined Effects*) is exceeded. Per Table 5-3, this criteria is exceeded along two of the segments. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the forecast ambient (Cumulative Without Project) noise level is increased by 1 dB or more. Based on the results of Table 5-3, of the two segments that exceed the *Combined Effects* criteria, neither would also exceed the *Incremental Effects* criteria. The roadway segments would not result in significant cumulative impacts. Therefore, the proposed project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact in this regard.

Mitigation Measures:

The following mitigation measures apply to all sites:

Refer to Mitigation Measures 4.11-1a, 4.11-1b, and 4.11-2. Additional mitigation is not required.

Level of Significance After Mitigation: Less Than Significant Impact.

**Table 5.2.10-1
 Cumulative Traffic Noise Scenario**

Roadway Segment	Existing	Cumulative Without Project	Cumulative With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and Cumulative With Project	Difference in dBA between Cumulative Without Project and Cumulative With Project	
Nevada City Highway						
Dorsey Drive to Brunswick Road	61.6	62.1	62.2	0.6	0.1	No
North of Brunswick Road	63.0	64.8	64.8	1.8	0.0	No
SR-20						
SB On-Ramp	64.6	66.3	66.5	1.9	0.2	No
Brunswick Road						
SR-20 to Sutton Way	64.8	66.5	66.7	1.9	0.2	No
Sutton Way to Old Tunnel Road	59.4	61.7	62.0	2.6	0.3	No
Old Tunnel Road to Idaho Maryland Road	58.4	60.9	61.1	2.7	0.2	No
South of Idaho Maryland Road	59.2	61.2	61.3	2.1	0.1	No
Sutton Way						
North of Brunswick Road	59.7	60.4	60.5	0.8	0.1	No
South of Brunswick Road	62.4	63.3	63.6	1.2	0.3	No
Idaho Maryland Road						
West of Brunswick Road	54.1	55.3	55.3	1.2	0.0	No
East of Brunswick Road	51.1	56.5	56.7	5.6	0.2	No
McCourtney Road						
South of Personeni Road	56.5	58.4	58.5	2.0	0.1	No
McKnight Way						
East of SR-49	62.0	63.4	63.4	1.4	0.0	No
SR-49 SB Ramps to SR-49 NB Ramps	62.3	63.7	63.8	1.5	0.1	No
SR-49 Ramps to Auburn Street	61.9	64.2	64.3	2.4	0.1	No
Auburn Street						
North of McKnight Way	55.9	58.1	58.2	2.3	0.1	No

Table 5.2.10-1, continued

Roadway Segment	Existing	Cumulative Without Project	Cumulative With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and Cumulative With Project	Difference in dBA between Cumulative Without Project and Cumulative With Project	
La Barr Meadows Road						
South of McKnight Way	57.8	61.1	61.2	3.4	0.1	No
SR-20						
West of Pleasant Valley Road	62.3	62.6	62.8	0.5	0.2	No
Pleasant Valley Road to Rough and Ready Hwy.	63.9	64.3	64.4	0.5	0.1	No
East of Rough and Ready Highway	64.6	65.1	65.5	0.9	0.4	
Pleasant Valley Road						
North of SR-20	61.0	61.4	61.6	0.6	0.2	No
Penn Valley Drive						
Pleasant Valley Road to Horton Street	59.9	61.4	61.7	1.8	0.3	No
Horton Street to Broken Oak Court	55.7	56.1	56.9	1.2	0.8	No
Broken Oak Court to Spenceville Road	56.7	57.6	58.8	2.1	1.2	No
Rough and Ready Highway						
North of SR-20	55.9	57.1	57.5	1.6	0.4	No
South of SR-20	58.7	59.4	60.2	1.5	0.8	No
Spenceville Road						
South of Penn Valley Drive	56.2	56.8	56.9	0.7	0.1	No
SR-49						
Cameo Drive to Combie Road	66.2	68.1	68.2	2.0	0.1	No
Combie Road to Woodridge Drive	67.4	68.8	68.9	1.5	0.1	No
Combie Road						
West of SR-49	55.5	57.3	57.4	1.9	0.1	No
East of SR-49	60.3	61.9	62.2	1.9	0.3	No
West of Rosewood Drive	60.1	61.7	61.8	1.7	0.1	No
Rosewood Drive to Hacienda Drive	59.9	61.3	61.7	1.8	0.4	No
South of Magnolia Road	56.1	57.3	57.6	1.5	0.3	No
Magnolia Road						
East of Hacienda Drive	59.3	59.4	59.5	0.2	0.1	No
Hacienda Drive						
North of Combie Road	53.0	53.9	53.9	0.9	0	No

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Traffic noise modeling is based on traffic data provided by RBF Consulting, January 2013.

5.2.11 POPULATION AND HOUSING

The analysis of cumulative population and growth impacts considers the larger context of future development of the County and City as envisioned by their General Plans and relies upon the projections of those plans. Future development under the proposed project and the County of Nevada and City of Grass Valley General Plans, together with approved and proposed projects, would result in an increased population and the need for additional housing.

As described in Section 4.12, the project's estimated population of 2,960 residents in Grass Valley and 2,438 residents in Nevada County represents approximately 13 percent of the City's and 28 percent of the County's anticipated population growth and would occur over a 10- to 20-year timeframe. As such, the proposed project would result in an increase in population and growth estimates over what was identified in the General Plan.

As part of the County's General Plan Final EIR certification process, the Board of Supervisors attempted mitigation of certain countywide environmental impacts by adopting General Plan policies intended to effect a reduction in buildout capacity from approximately 181,000 persons to 140,000 persons countywide. However, a General Plan Implementation Measure for a county buildout growth limitation tied to growth in the cities was never adopted. Therefore, the County has determined that this 140,000 capacity level is not a "cap" in the sense of a growth limitation. Rather, it is merely an estimate for the buildout capacity that was expected to result from the General Plan. Moreover, it was never intended to require growth in the unincorporated county to be limited or reduced by reason of added buildout capacity in the incorporated cities. The estimate was not intended to preclude land use decisions by the County because of increases in buildout capacity within city limits that are beyond the County's control (see Final General Plan EIR, Vol. 1, p. 3-24). In addition, other approved projects in the County have not and do not always achieve maximum density due to site-specific conditions and Planning Commission decisions. Therefore, over time, the net changes in buildout capacity appear to be in equilibrium with increases offset by other project decreases. This equilibrium is very consistent with the policies and estimates outlined in the adopted General Plan.

Providing this context, the fact that the proposed project increases the residential density and general intensity of population and growth estimates over what was identified in the County's General Plan does not necessarily mean that the project would reach or exceed the countywide population buildout capacity. Given that other approved projects in the County have not and do not always achieve maximum density, it is unlikely that the proposed project would be inconsistent with the buildout capacity. Additionally, the proposed project would be developed to accommodate future population demand and meet the state requirements for high density and affordable housing in the County. Therefore, the impact associated with the proposed project would not contribute to cumulative long-term impacts on the population of Nevada County, and would not be cumulatively considerable.

5.2.12 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS

As described Section 4.13, the public service needs of the proposed project could result in potential impacts to service providers including the Police and Fire Departments, libraries, and sewer. Implementation of Mitigation Measures 4.13-1a, 4.13-1b, 4.13-1c and 4.13-2d would reduce those impacts to a less than significant level. The proposed project would have

less than significant impacts on the demand for or provision of utilities, including water supply and solid waste disposal.

Cumulative projects include development projects in the City and County that could increase the need for public services within the project vicinity. However, future development within the project vicinity would be guided by the City and County General Plans, and associated planning and environmental documents. Each project would be subject to the City and/or County planning process. As part of this planning process, the payment of appropriate fees (including student impact fees) by all development projects would be required to mitigate any effects to public services, utilities and service systems and minimize cumulative impacts on a project-by-project basis. Furthermore, the City and County Fire Departments and Police/Sheriff Departments would be involved in the development review process for all projects in the City and County, and would continue to provide input into the review of new projects. Additionally, the proposed project, in conjunction with reasonably foreseeable future projects, would bring additional annual revenue to the City in the form of increased local property taxes assessed on the new residential development that would offset the increased demand for police and fire services. Future development would also be required to comply with all federal, state and local regulations and ordinances protecting utility services, including providing sewer service and complying with all water conservation measures and waste minimization efforts in accordance with City and County requirements. Therefore, the incremental impact associated with the proposed project would not contribute to cumulative long-term impacts on public services, utilities and service systems and, therefore, would not be cumulatively considerable.

5.2.13 RECREATION

The analysis of cumulative recreational impacts considers the larger context of future development of Nevada County and the City of Grass Valley as envisioned by their respective General Plans and relies upon the projections of those General Plans. As described above, future development would not result in significant effects associated with the demand for or provision of recreational facilities with implementation of mitigation measures. Therefore, the proposed project would not contribute to cumulative long-term impacts on recreation.

5.2.14 TRANSPORTATION/TRAFFIC

For cumulative conditions, the Nevada County Transportation Commission (NCTC) and City of Grass Valley 2030 travel demand model was utilized and the volumes post processed to reflect Approved Projects and newer traffic count data. Review of the 2030 model volumes revealed that cumulative volumes were lower at certain locations compared to Approved Projects volumes. The cumulative volumes were subsequently post processed by adding growth in the volumes between 2012 and 2030.

Intersections were analyzed for cumulative conditions. The model was updated to reflect the new Dorsey Drive Interchange with SR 20-49.

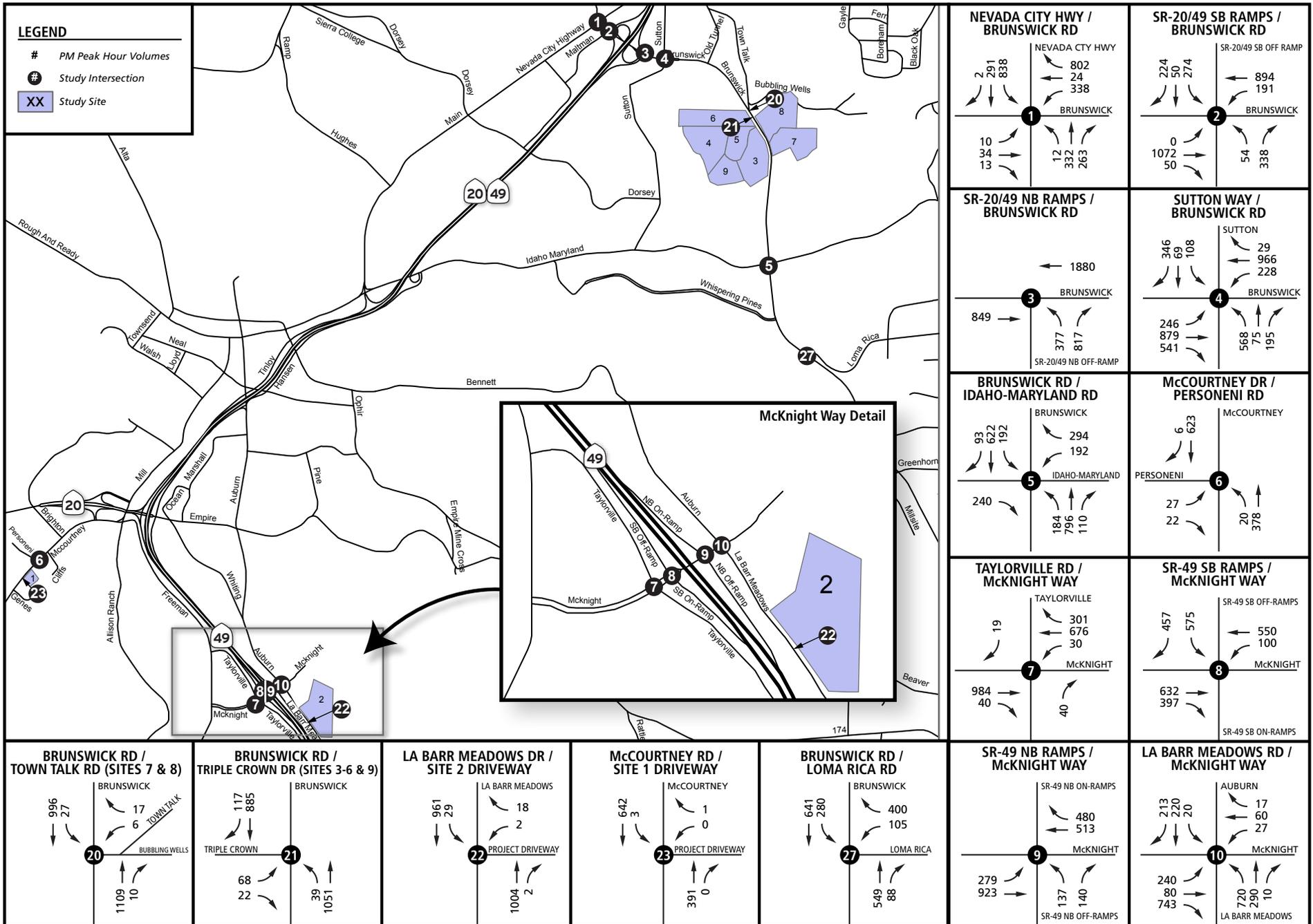
The cumulative and cumulative plus project traffic volumes are provided in Figure 5.2.14-1a-c, *Cumulative PM Peak Hour Volumes* and Figure 5.2.14-2a-c, *Cumulative Plus Net Project PM Peak Hour Volumes*.

Cumulative Traffic Conditions

The analysis of cumulative traffic without the proposed project was performed and the results are identified in Table 5.2.14-1, *Signalized Intersection HCM LOS –Cumulative Plus Project Conditions* and Table 5.2.14-2, *Unsignalized Intersection HCM LOS – Cumulative Plus Project Conditions*.

**Table 5.2.14-1
 Signalized Intersection HCM LOS –Cumulative & Cumulative Plus Project
 Conditions**

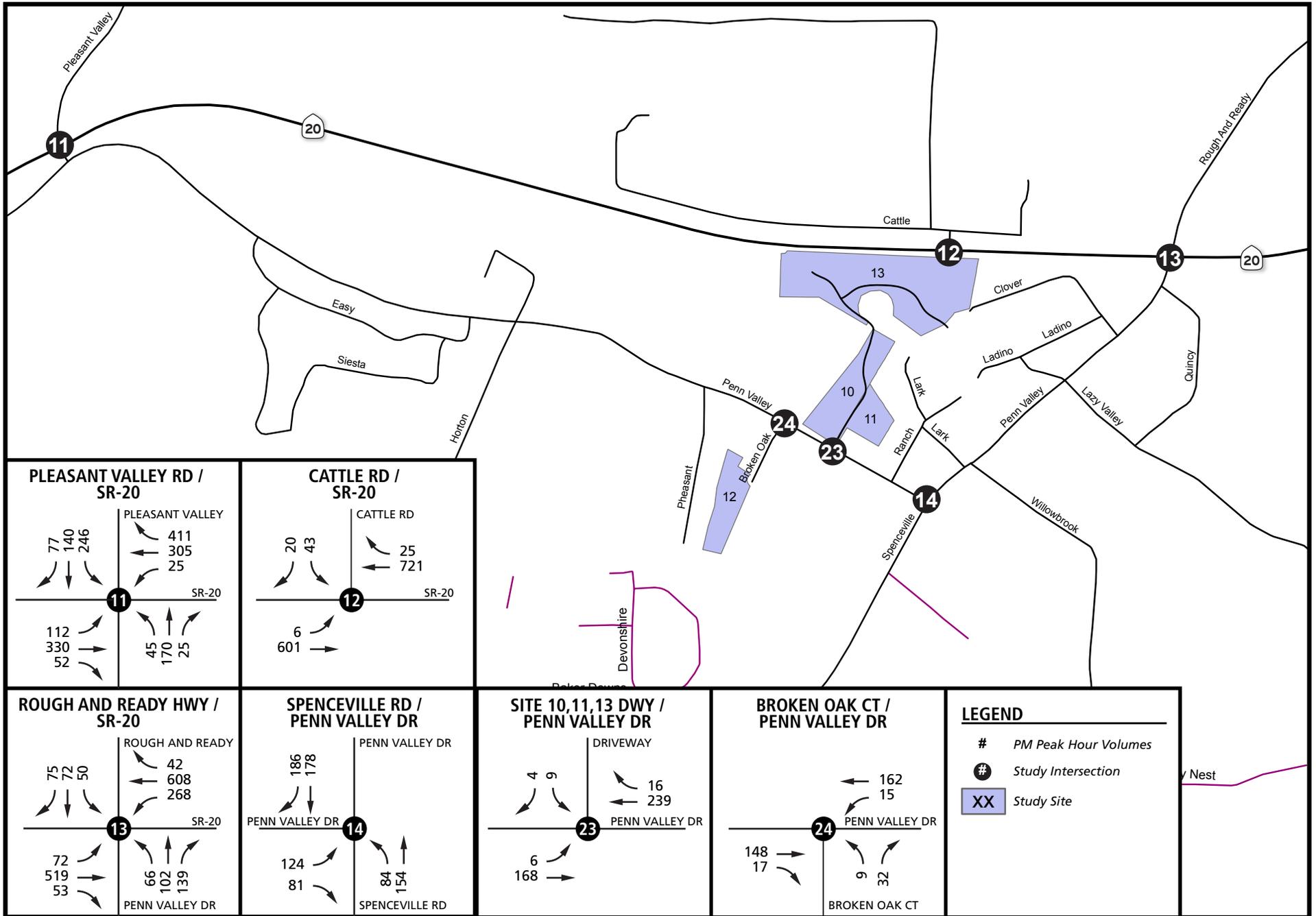
Intersection	Intersection Control	LOS Threshold	Cumulative			Cumulative + Project		
			V/C Ratio	Delay (Secs.)	LOS	V/C Ratio	Delay (Secs.)	LOS
Grass Valley SOI Study Intersections								
1. Nevada City Highway / Brunswick Road	Signal	G.V.	0.74	59.2	E	0.77	62.3	E
		D						
Mitigation (MM 5.2.14-1): Modify Signal Timing						0.76	41.8	D
2. SR 20-49 SB Ramps / Brunswick Road	Signal	Caltrans	0.77	49.7	D	0.79	53.5	D
		C/D						
3. SR 20-49 NB Ramps / Brunswick Road	Signal	Caltrans	0.99	39.8	D	1.04	47.8	D
		C/D						
4. Sutton Way / Brunswick Road	Signal	G.V.	0.85	39.3	D	0.91	42.0	D
		D						
8. SR 49 SB Ramps / McKnight Way	Signal	Caltrans	0.86	29.1	C	0.89	30.7	C
		C/D						
9. SR 49 NB Ramps McKnight Way	Signal	Caltrans	0.77	58.0	E	0.80	67.5	E
		C/D						
Mitigation (MM 5.2.14-2): Roundabout						0.79	18.3	C
Penn Valley Study Intersections								
11. Pleasant Valley Rd / SR-20	Signal	Caltrans	0.63	26.6	C	0.65	28.0	C
		C/D						
13. Penn Valley Drive / Rough and Ready Hwy SR-20	Signal	Caltrans	0.62	19.7	B	0.71	26.0	C
		C/D						
Lake of the Pines Study Intersections								
16. SR-49 Combie Road	Signal	Caltrans	1.14	121.1	F	1.15	136.3	F
		C/D						
Mitigation (MM 4.15-5): Add Southbound Left Turn Lane and Extend Westbound Left lane to 250 Ft.						0.92	47.2	D
18. Hacienda Drive Combie Road	Signal	Nev. Cnty.	0.86	39.8	D	0.86	39.9	D
		D						
Source: RBF Consulting 2013								
Notes: GV = 1. City of Grass Valley, Nev. Cnty. = Nevada County								
2. Bold indicates LOS below acceptable LOS standard								



Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



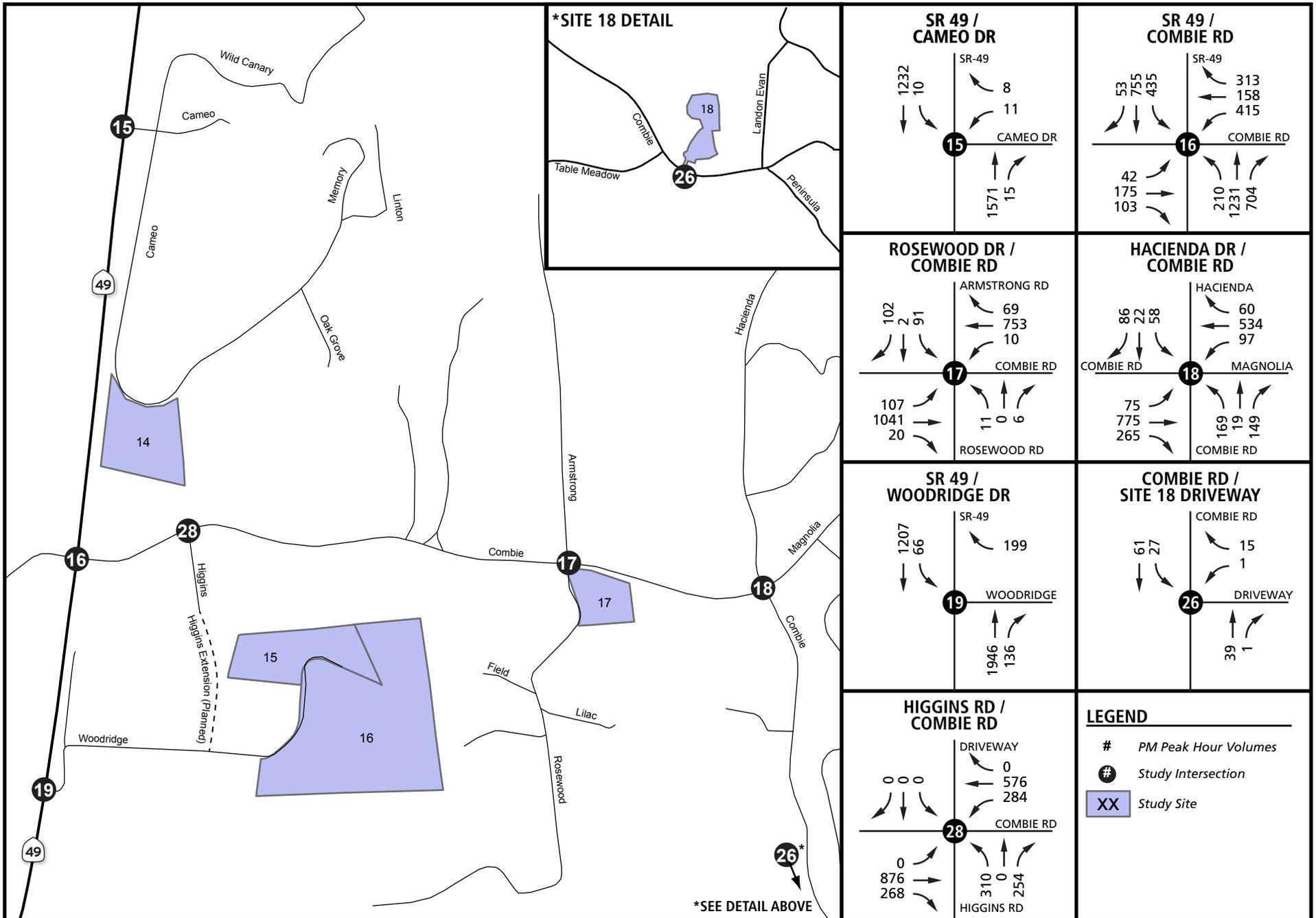


Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Cumulative under Current General Plan Land Use Designations PM Peak Hour Traffic Volumes



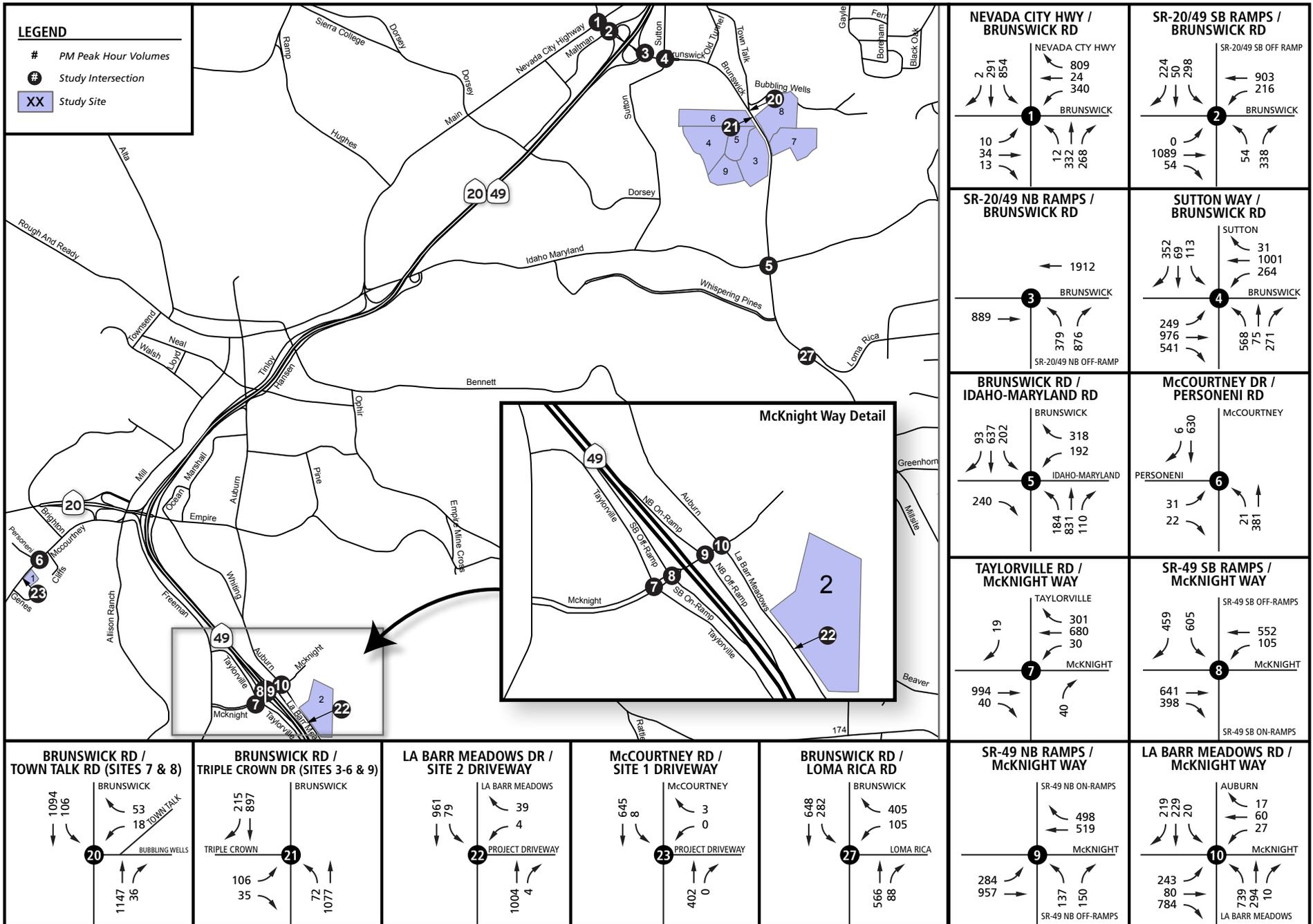


Source: RBF Consulting 2013 Not to Scale

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Cumulative under Current General Plan Land Use Designations PM Peak Hour Traffic Volumes

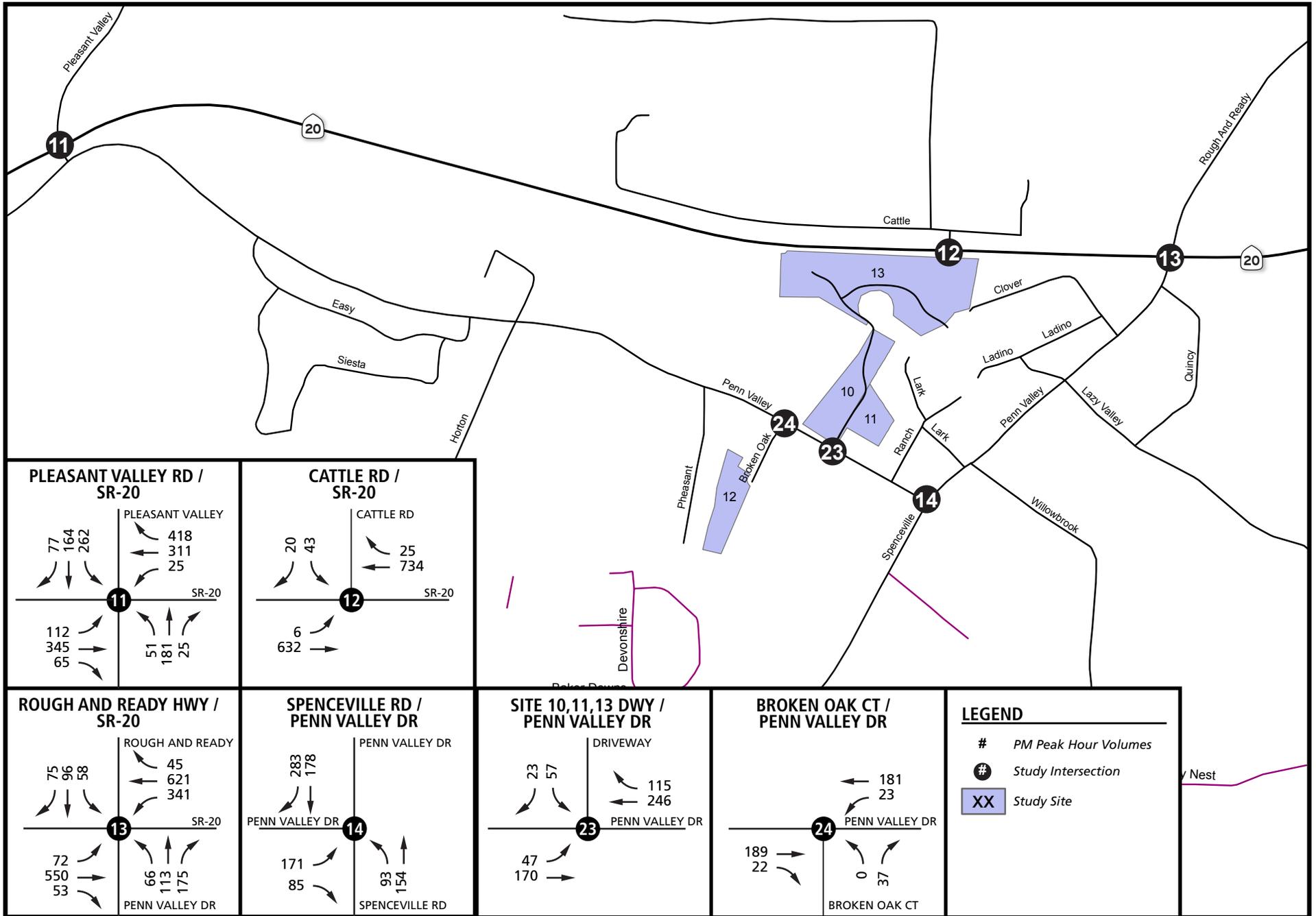




Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



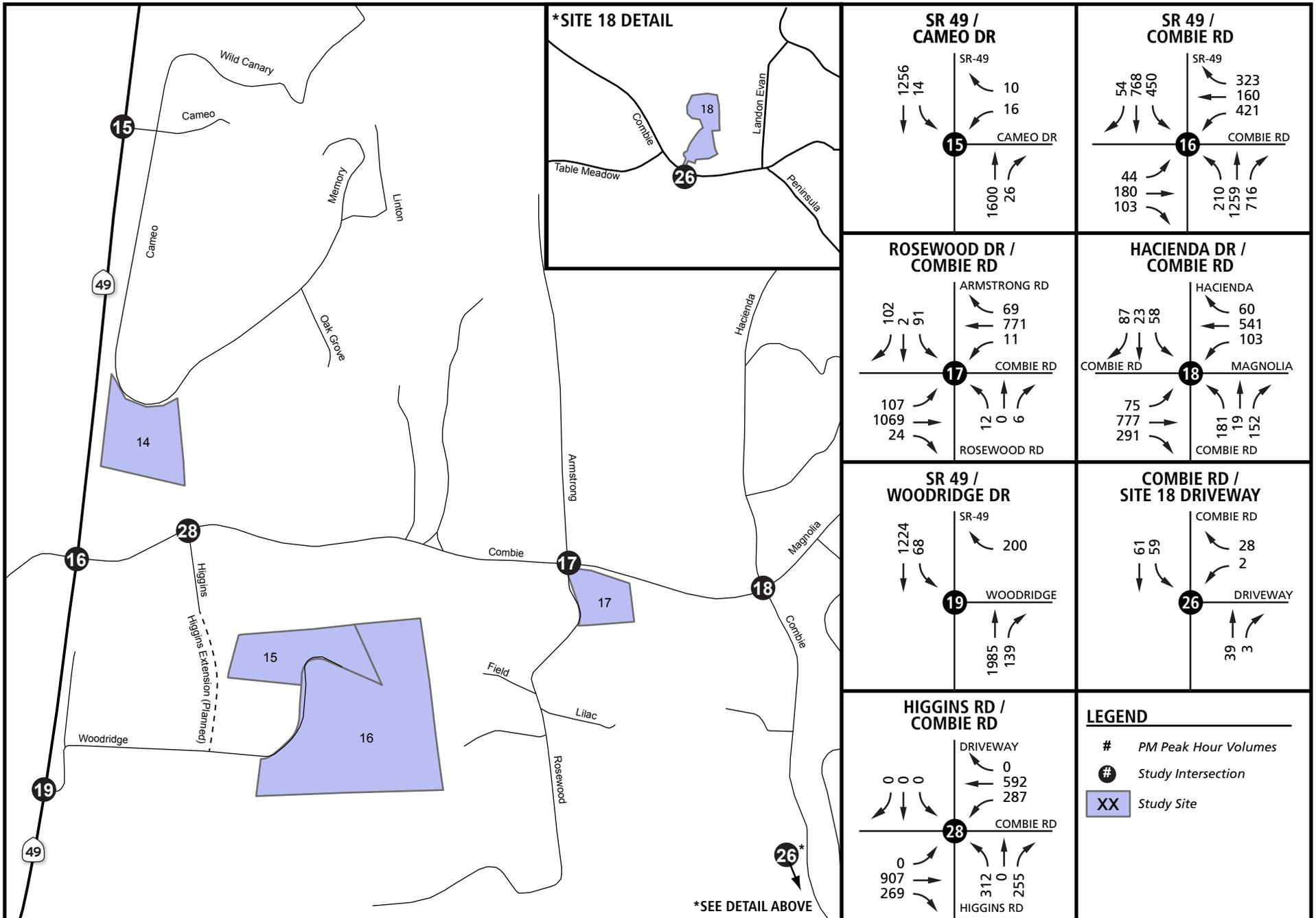


Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Cumulative + Project PM Peak Hour Traffic Volumes





Source: RBF Consulting 2013 Not to Scale

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Cumulative + Project PM Peak Hour Traffic Volumes



**Table 5.2.14-2
Unsignalized Intersection HCM LOS – Cumulative Plus Project Conditions**

Intersection	Intersection Control	LOS Threshold	Cumulative		Cumulative + Project	
			Delay (Secs.)	LOS	Delay (Secs.)	LOS
Grass Valley SOI Study Area						
5. Brunswick Road / Idaho-Maryland Road	SSS (EB/WB) Worst Approach	G.V.	>100	F	>100	F
		D	*	F	*	F
	Mitigation (MM 4.15-2): Roundabout				11.2	B
6. McCourtney Road / Personeni Road	SSS (EB) Worst Approach	G.V.	1.2	A	1.3	A
		D	19.4	C	20.3	C
7. Taylorville Road / McKnight Way	SSS (NB/SB) Worst Approach	G.V.	0.5	A	0.5	A
		D	18.3	C	18.4	C
10. La Barr Meadows Road / McKnight Way	SSS (NB/SB) Worst Approach	G.V.	>100	F	>100	F
		D	>100	F	>100	F
	Mitigation (MM 4.15-3) Roundabout				18.3	C
20. Brunswick Road / Town Talk Road / Sites 7,8	SSS (EB) Worst Approach	G.V.	0.7	A	4.9	A
		D	48.2	E	>100	F
	Mitigation (MM 5.2.14-3): Signalize and Align with Triple Crown Drive				14.8	B
21. Brunswick Road / Triple Crown Drive / Sites 3-6, 9	SSS (WB) Worst Approach	G.V.	17.9	C	>100	F
		D	>100	F	*	F
	Mitigation (MM 4.15-4): Signalize and Align with Town Talk Road				14.8	B
22. McCourtney Road / Driveway Site 1	SSS (WB) Worst Approach	G.V.	0.4	A	1.1	A
		D	27.0	D	30.4	D
27. Brunswick Road / Loma Rica Road	SSS (WB) Worst Approach	G.V.	15.5	C	17.2	C
		D	57.3	F	64.3	F
	Mitigation (MM 5.2.14-4): Signalize				18.2	B
Penn Valley Study Area						
12. Cattle Drive / SR-20	SSS (SB) Worst Approach	Caltrans	1.5	A	1.5	A
		C/D	32.9	D	34.9	D
14. Spenceville / Penn Valley Rd/ Penn Valley Drive	AWS Worst Approach	Nev. Cnty.	11.8	B	15.5	C
		D	12.6	B	18.2	C
23. Penn Valley Drive / Driveway to Sites 10, 11, 13	SSS (SB) Worst Approach	Nev. Cnty.	0.5	A	2.3	A
		D	11.0	B	13.4	B
24. Penn Valley Drive / Broken Oak Court / Site 12	SSS (NB) Worst Approach	Nev. Cnty.	1.4	A	1.5	A
		D	9.7	A	10.2	B
Lake of the Pines Study Area						
15. SR-49 / Cameo Drive	SSS (WB) Worst Approach	Caltrans	0.3	A	0.4	A
		C/D	34.2	D	34.4	D
17. Rosewood Road / Combie Road	SSS (NB/SB) Worst Approach	Nev. Cnty.	11.1	B	19.1	C
		D	>100	F	>100	F
19. SR-49 / Wooddridge Court	SSS (NB) Worst Approach	Caltrans	2.9	A	7.6	A
		C/D	44.6	E	48.1	E
26. Combie Road / Driveway to Site 18	SSS (NB) Worst Approach	Nev. Cnty.	>100	A	3.7	A
		D	>100	A	8.7	A
28. Higgins Road / Combie Road	SSS (NB) Worst Approach	Nev. Cnty.	>100	F	>100	F
		D	>100	F	>100	F
	Mitigation (MM 4.15-7): Signalize and Construct Additional Eastbound Through Lan				32.8	C

Source: RBF Consulting 2013

Notes: 1. NB, SB, EB, WB, AWS, SSS = Northbound, Southbound, Eastbound, Westbound, All Way, Side Street Stop

2. Worst approach delay utilized to identify operating conditions. Overall delay includes through traffic.

3. **Bold** indicates LOS below acceptable LOS standard

* Indicates delay beyond the capability of the Synchro analysis software

**Table 5.2.14-3
 Cumulative Plus Project Mitigation Triggers
 (Under Individual Site Build Out Conditions)**

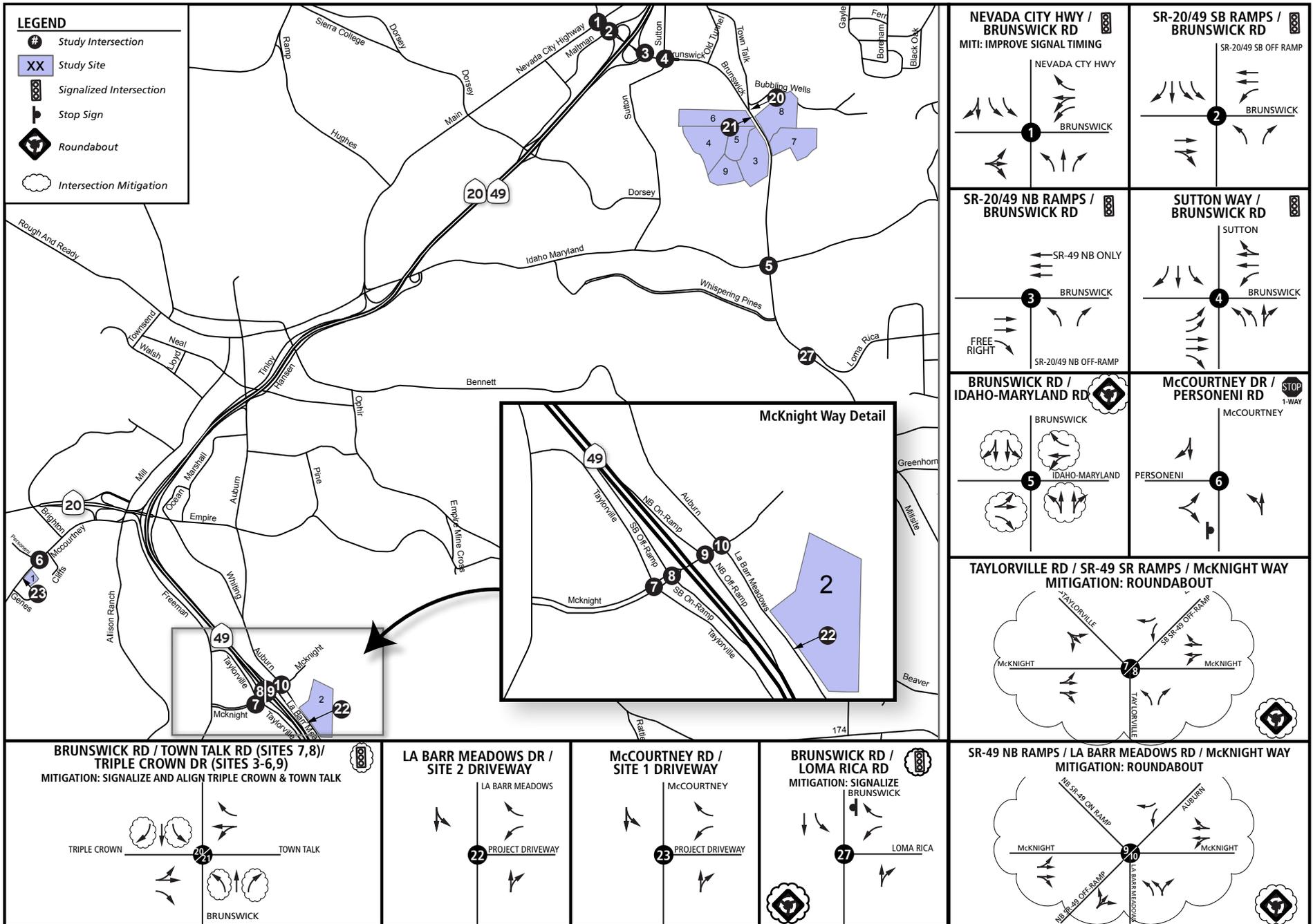
Intersection	Mitigation Measure #	Number of PM Peak Hour Project Trips Added that Trigger Mitigation	Sites Triggering Mitigation
<i>Grass Valley SOI Study Area</i>			
1. Nevada City Highway / Brunswick Road	5.2.14-1	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
9. SR 49 Northbound Ramps / McKnight Way	5.2.14-3	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
20. Brunswick Road / Town Talk Road	5.2.14-2	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
22. Brunswick Road / Loma Rica Drive	5.2.14-4	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9

Source: RBF Consulting 2013

All of the improvements and mitigation identified for impacts under Project Conditions would suffice for Cumulative Plus Project conditions and the study intersections would operate at acceptable LOS. In addition, cumulative impacts would occur at the following study intersections:

- Nevada City Highway / Brunswick Road is anticipated to operate at LOS E during the PM peak hour.
- Brunswick Road / Town Talk (Site 7 & 8 Access Road) is anticipated to operate at an LOS F at the worst approach during the PM peak hour.
- SR 49 Northbound Ramps / McKnight Way is anticipated to operate at an LOS E during the PM peak hour.
- SR 49 / Combie Road is anticipated to operate at LOS F during the PM peak hour.

Figures 5.2-14-3a-b, *Intersection Mitigations – Cumulative plus Project Conditions*, provide a graphical representation of the proposed improvements to mitigate impacts under Cumulative plus Project Conditions.



Source: RBF Consulting 2013

GRASS VALLEY SOI STUDY AREA

COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

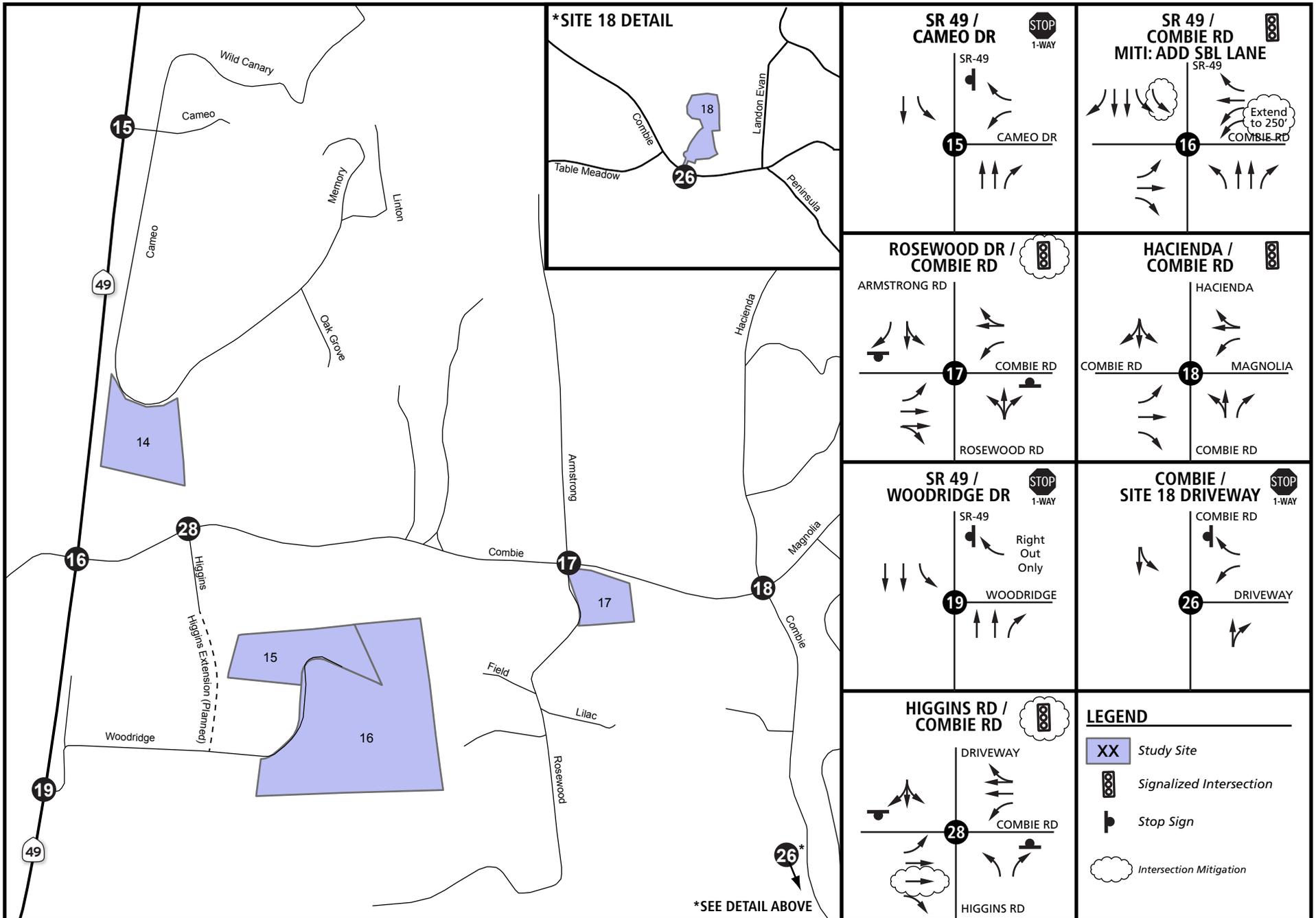


Not to Scale

Intersection Mitigations - Cumulative plus Project Conditions

4/21/2013 • JN 131242-18945

FIGURE 5.2.14-3A



Source: RBF Consulting 2013



Not to Scale

7/31/2013 • JN 131242-18945

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Intersection Mitigations - Cumulative plus Project Conditions

FIGURE 5.2.14-3B

Potential Cumulative Project Impacts And Mitigation Measures

The following mitigation measures are intended to outline the anticipated responsible agency that has jurisdictional oversight of the regulations, specifications and design standards that apply to the required improvement. Sites 1-9 are located within the City of Grass Valley Sphere of Influence, and it is anticipated that they will require annexation prior to development, and therefore, the City is listed as the implementing/monitoring agency for the mitigation measures that apply to those sites. In the event that these sites do not annex into the City and do not require City services, the implementing/monitoring agency shall automatically default to the County of Nevada. In the event that the mitigation measure requires improvements to a City facility, such as an intersection already within the City limits, the City of Grass Valley shall remain as the implementing and monitoring agency regardless of whether or not the site is eventually annexed into the City.

5.2.14-1 *THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE SIGNALIZED INTERSECTION OF NEVADA CITY HIGHWAY AND BRUNSWICK ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT LOS E (UNACCEPTABLE) IN THE PM PEAK HOUR.*

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of Nevada City Highway and Brunswick Road is anticipated to operate at an unacceptable LOS E without the addition of project-generated traffic under cumulative conditions. The intersection is anticipated to continue to operate at LOS E with project traffic. However, the v/c ratio would increase by more than two percent, which is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Sites 3 through 9.

- 5.2.14-1 Prior to issuance of a building permit, the project developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the installation of signal timing at the intersection of Nevada City Highway and Brunswick Road to improve operations and meet future traffic volume demand. Signal timing splits shall be optimized based upon a cycle length of 90 seconds. This mitigation would improve the operation of the intersection to LOS D.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

5.2.14-2 *THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTION OF BRUNSWICK ROAD AND*

TOWN TALK ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT AN OVERALL LOS E AND LOS F AT THE WORST APPROACH (UNACCEPTABLE) IN THE PM PEAK HOUR.

Level of Significance before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of Brunswick Road and Town Talk (Sites 7 & 8 Access Road) is anticipated to operate at overall LOS A and LOS E on the worst approach without the project. The addition of project traffic will deteriorate intersection operations to an overall LOS A and LOS F on the worst approach during the PM peak hour. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Sites 3 through 9.

- 5.2.14-2 Prior to issuance of a building permit, the project developer shall install or fund the realignment of Triple Crown Road with Town Talk Road (Sites 7 and 8 access) into one intersection and the installation of a traffic signal. This measure will improve intersections of Brunswick Road / Triple Crown Drive and Brunswick Road / Town Talk Road / Bubbling Wells Road to LOS C during the PM peak hour. The intersection does meet peak hour Caltrans peak hour signal warrant for the installation of a traffic signal. The proposed mitigation includes one additional southbound right turn lane, one southbound left turn lane, one northbound left turn lane and one northbound right turn lane.

The developer and the City of Grass Valley should enter into a reimbursement agreement for the remaining portion of the improvement costs that are not the project developer's fair share.

Timing Implementation: Prior to issuance of a building permit.

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

- 5.2.14-3 ***THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTION OF SR 49 NORTHBOUND RAMPS AND MCKNIGHT WAY. THIS INTERSECTION IS PROJECTED TO OPERATE AT OVERALL LOS E (UNACCEPTABLE) IN THE PM PEAK HOUR.***

Level of Significance before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of the SR 49 Northbound Ramps and McKnight Way is anticipated to operate at LOS D without the project an overall LOS E with the project traffic during the PM peak hour. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Site 2.

- 5.2.14-3 Prior to the development of the project site, the Project Developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program for the provision of the dual roundabouts on McKnight Way at the SR 49 interchange described in Mitigation Measure 4.15-3.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

5.2.14-4 ***THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTIONS OF SR 49 / COMBIE ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT LOS E (UNACCEPTABLE) IN THE PM PEAK HOUR.***

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of SR 49 and Combie Road would operate at LOS E without project generated traffic and LOS E during the PM peak hour with the addition of the project generated traffic. The overall delay would increase by more than two seconds. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Sites 14 through 18.

- 5.2.14-4 Prior to issuance of a building permit, the project developer shall pay a fair share contribution to the Nevada County RTMF program for the construction of an additional southbound left turn lane that is at least 325 feet in length shall be installed at the intersection of SR 49 and Combie Road. This improvement will improve operations at the intersection to LOS D during the PM peak hour. The addition of a southbound left turn lane is an identified improvement in the Nevada County Regional Transportation Plan and RTMF.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: Nevada County

Level of Significance After Mitigation: Less Than Significant Impact

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6.0 ALTERNATIVES

6.1 INTRODUCTION

Section 15126.6 of the *CEQA Guidelines* requires an EIR to describe and evaluate a reasonable range of alternatives to a proposed project. The purpose of the evaluation is to identify ways to mitigate or avoid the significant effects that a project may have on the environment. An EIR does not need to consider every conceivable alternative to a proposed project, nor is it required to consider alternatives that are infeasible. Rather, it must consider a reasonable range of alternatives that could feasibly attain most of the project's basic objectives, while avoiding or substantially lessening any significant adverse environmental effects of the project. The EIR must evaluate the comparative merits of the alternatives and provide sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project to foster informed decision making and public participation. In addition, *CEQA Guidelines* Section 15126.6(e) requires that an EIR specifically evaluate the impacts associated with the alternative of 'no project' to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

This chapter provides a brief description of the proposed project, project goals and objectives, and potentially significant project impacts, followed by a description and evaluation of each alternative selected for inclusion in the EIR. Finally, this chapter concludes with a comparison of the alternatives and identification of the environmentally superior alternative.

6.2 PROJECT SUMMARY

6.2.1 PROJECT CHARACTERISTICS

To meet state housing requirements identified in the County's Housing Element, high density residential zoning (R3) for an additional 1,270 low and very low income housing units are required to meet the County's unmet housing needs. The project proposes to implement rezoning through the Zoning Map Amendment process to rezone sufficient acreage to higher density residential, or the equivalent of higher density residential, to meet the minimum low and very low income requirements. The specific rezoning process is proposed through the implementation of Housing Element Programs HD-8.1.3 and HD-8.1.4, including adding the "RH" Zoning Combining District to those sites included in Program HD-8.1.5.

The Housing Element Programs are described below:

Program HD-8.1.3: To accommodate the unmet housing need of 571 low and very-low income units identified in the 2003-2008 Nevada County Housing Element, the County would rezone at least 29-acres of property suitable and available for development.

Program HD-8.1.4: To accommodate the unmet housing need of 699 low and very-low income units identified in the 2009-2014 Nevada County Housing Element, the County would rezone at least 35-acres suitable and available for development.

The rezoning of property under Programs HD-8.1.3 and HD-8.1.4 will occur through one of the following scenarios:

1. Rezones within the cities' sphere of influence to a maximum density of 20 units per acre (R3-20) and a minimum density of 16 units per acre; or
2. Rezone a sufficient amount of land outside the cities' sphere of influence to a minimum density of 16 units per acre; or
3. A combination of rezoned land within and outside of the cities' sphere of influences at the identified densities may also be used to satisfy the unmet need of 571 and 699 units, respectively.

A minimum of 50 percent of the 1,270 units shall be accommodated on sites zoned exclusively for residential uses. Owner occupied and rental multi-family residential uses on these sites shall be allowed by right (without a conditional use permit, planned unit development plan, or other discretionary action) as required by Government Code Sections 65583.2(h) and (i). The rezoned sites shall provide for a minimum of 16 units per site and require a minimum density of 16 units per acre.

Program HD-8.1.5: Required the County to amend the Zoning Regulations to create a definition and development standards for a Regional Housing (RH) Combining District that is to be attached to the rezoned sites in order to accommodate the new construction objectives under Programs HD-8.1.3 and HD-8.1.4. The RH Combining District was developed by County staff and adopted by the County Board of Supervisors on September 27, 2011.

In addition to a Zoning Map amendment, all of the proposed project sites will require a General Plan Map Amendment, with the exception of Site 6, to accommodate a proposed density of a maximum 20 du/acre for Sites 1-9 located within the Grass Valley SOI area of Nevada County, and a maximum 16 du/ac for Sites 10-18. The range of 16-20 du/ac reflects the County's designation that allows up to 20 du/ac in the R3 Zoning when the site is within a City SOI. The 16 du/ac relates to the state-mandated density for rezoned sites and is allowed by the County's RH (Regional Housing) Combining Districts. All proposed sites, other than Site 6, will require a General Plan Map Amendment to change the designation to Urban High Density Residential.

SITE DEVELOPMENT

The proposed project does not include any site development or construction on the 18 candidate sites evaluated in this EIR. Future development would occur on these sites as market conditions allow at the discretion of the individual property owners.

To evaluate the potential impact associated with development on the 18 identified properties, the theoretical or maximum yield of each candidate site is used in this EIR. The method was used as a conservative approach to evaluating the potential environmental impacts associated with future development on the properties. This is a conservative approach because assuming a maximum yield assumes the highest number possible of units could be built, and does not take into consideration any development constraints such as sensitive biological resources, cultural resources, ground slope, wetlands, or regulatory constraints such as existing easements, driveways, frontage improvements, or roadway or intersection improvements. The presence of any one of these constraints could limit the amount of development that is permitted on a given site. The maximum or theoretical yield is simply a calculation that multiplies the total area of a property by the allowable density. The maximum yield for the properties addressed in this analysis is 2,680 total units on approximately 149 acres. It is anticipated that very few, if any, of the sites will be able to achieve their maximum yield. However, the maximum yield is assumed for purposes of this

EIR to evaluate the greatest number of units possible to provide future development the opportunity to utilize the analysis in this environmental document for future development applications.

Establishment of Site Development Criteria for Rezoned Sites

As outlined in the “RH” Combining District Ordinance (Section L-II 2.7.11.C.3 of the Nevada County Land Use and Development Code), the project will result in the development of a Regional Housing Need Implementation Plan. This Plan will outline site-specific development standards and any CEQA mitigation measures adopted for each site that must be adhered to in order for the site to develop consistent with the purpose of the rezone and to ensure that the development of the site does not result in a significant environmental impact.

6.2.2 PROJECT OBJECTIVES

The following are the project objectives:

- Identify private properties that can be feasibly rezoned to meet the County’s obligation to provide high-density housing opportunities as required by state law;
- Increase high-density housing opportunities in different areas of unincorporated Nevada County;
- Identify properties with property owners that consent to participating in the County’s program and agreed to have the RH Combining District on their properties;
- Identify properties that are large enough to support enough units to make developing affordable high-density financially feasible;
- Identify participating properties that have reasonable access to existing infrastructure (e.g., public roads and utilities);
- Identify properties that have reasonable access to community services (e.g., public transportation, retail/grocery stores, employment opportunities)
- Protect the natural environment
- Establish clear and effective site-specific development standards/mitigation measures for each rezoned property to ensure that the future development of high density housing on that site meets County development standards and does not result in significant and avoidable environmental impacts.

6.2.3 POTENTIALLY SIGNIFICANT PROJECT IMPACTS

Chapter 4 (Existing Conditions, Environmental Impacts and Mitigation Measures) of this EIR describes the potential impacts of the proposed project. As identified in that chapter, the project would result in a number of potentially significant environmental impacts, some of which could be mitigated to less than significant levels. The following summarizes the proposed project’s potentially significant impacts prior to implementation of mitigation measures:

- Land Use and Planning – No potentially significant land use and planning impacts were identified for the County of Nevada. However, the proposed change in land use density to high density residential (20 dwelling units per acre) within the Grass Valley Sphere of Influence would conflict with the City’s existing medium density (4-8

dwelling units per acre) and mixed use density land use designations because the proposed density is higher. The potential conflicts would be addressed through policy agreements between the two jurisdictions. While the mitigation would address the density conflicts with the City of Grass Valley, the conflicts would remain until there was a change in the Grass Valley General Plan. Acceptance of an agreement by the City of Grass Valley or a change in the City's General Plan is outside the jurisdiction of the County and potential conflicts would remain significant and unavoidable.

- Aesthetics – The project would result in short-term aesthetic impacts as a result of construction debris and construction-related activities. These impacts would be reduced to a less than significant level with implementation of mitigation measures. Future development associated with the RH Combining District would permanently alter the nature and appearance of the project area. However, this impact would be less than significant given that the majority of proposed development would be located outside heavily forested areas of the site where disturbance has already occurred. In addition, views from surrounding land uses would be buffered by existing on-site dense trees and proposed trees and vegetation. The proposed project would result in new sources of light and glare. Implementation of mitigation measures would reduce this impact to less than significant.
- Air Quality – Future development within the RH Combining District would result in significant and unavoidable increases in air pollutants during construction and operation of the project due to the exceedance of established air quality standards. The proposed project would not be consistent with air quality attainment plan criteria, which would result in a significant and unavoidable impact.
- Greenhouse Gas Emissions – Cumulatively considerable increases in air pollutants during operation of future development of the project would result in a significant and unavoidable cumulative contribution of greenhouse gas (GHG) emissions to global climate change.
- Biological Resources – The proposed project would result in potentially significant impacts due to the loss of wildlife habitat, direct loss of wildlife, wildlife disturbance from increased human presence, and removal of habitat for special-status species. Potentially significant impacts to wetland and riparian areas due to vegetation removal, disruption of wetland hydrology from potential increases and/or decreases in hydrologic input during project operation, and wetland habitat degradation from sedimentation and/or contaminated stormwater runoff during the life of the project have also been identified. Finally, future development associated with the proposed project could result in the direct loss of special-status plants during construction and direct loss of terrestrial plant communities. All of these impacts would be reduced to less than significant with implementation of mitigation measures.
- Cultural Resources – Future development within the proposed project areas could potentially damage or destroy prehistoric, historic, archaeological or paleontological resources during project construction resulting in potentially significant impacts. Implementation of mitigation measures would reduce these impacts to less than significant.
- Geology and Soils – The proposed project could result in potentially significant impacts due to structural damage and safety risks from seismic hazards (ground shaking and seismically induced settlement, liquefaction, and dam failure) and potentially unstable soils (landslides, subsidence, or expansive soil). In addition,

potential soil erosion during construction of future development could result in a potentially significant impact. Implementation of mitigation measures would reduce these impacts to a less than significant level.

- Hazards and Hazardous Materials – The proposed project could result in a hazard to the public or environment from accidental exposure to hazardous materials during the construction and operation of future development. Given the location of Sites 3 through 9 to the Nevada County Airpark, future development could also result in safety hazards to people living or working in the area. Finally, the project could put people and structures at risk due to potential wildland fires. All of these impacts would be reduced to a less than significant level with implementation of mitigation measures.
- Hydrology and Water Quality – Construction and operation of the proposed project could result in water quality degradation of surface waters within the project area. Protective and enhancement measures to minimize impacts would be required for future development of the sites. Vegetation removal, grading and construction would alter existing drainage patterns and could result in potential erosion and/or siltation. The project would increase the amount of impervious surface onsite, which would change existing absorption rates, drainage patterns and the amount of stormwater runoff and could result in potential flooding on- and off-site. BMPs and green building design features, which would be required by Mitigation Measure 4.10-1b, would help reduce the velocity of flows and encourage infiltration before runoff enters the stormwater drainage system. Only Sites 10 and 13 in the Penn Valley Area were identified to be within the 100-year floodplain. None of the other sites were at risk of being within a 100-year flood hazard area. Implementation of mitigation measures described in this EIR would reduce impacts to a less than significant level.
- Noise – Temporary increases in noise and groundbourne vibration during construction of the proposed project would result in potentially significant impacts. However, none of the roadway segments would experience a 3 dB increase or more between the No Project and Plus Project conditions. Thus, implementation of the proposed project would not result in a significant increase in traffic noise levels. Construction noise impacts would be reduced to a less than significant level with implementation of mitigation measures.
- Population and Housing – The project would induce population growth within the County and City of Grass Valley. Population growth was anticipated in the County General Plan and no impacts have been identified. However, the proposed densities for the project sites within the City’s Sphere of Influence area are higher than what is considered in the City’s current General Plan. As such, the project would induce growth within the City upon annexation of the properties into the City of Grass Valley.
- Public Services, Utilities and Service Systems – The proposed project would result in increased demand for fire and police protection services, libraries, hospitals, and public schools. Payment of development impact fees and increased revenue from property and sales taxes would help offset the increased cost of services, personnel, equipment and infrastructure. Increases in wastewater flows from future development within the proposed project areas would also result in potential impacts. Mitigation requiring the replacement of some of the County’s and City’s wastewater infrastructure would address this impact. Increases in potable water demand and

wastewater flows from future development within the proposed project areas would also result in potential impacts. Mitigation measures are proposed to ensure that adequate water supplies and sewer capacity are available prior to future development receiving service. However it is unknown what the capacity of the water or wastewater facilities will be at the time of construction, Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley. Thus, potential impacts on water and wastewater service would remain significant and unavoidable.

- Recreation – Future development within the proposed project areas could result in the physical deterioration of community and regional parks due to increased use from additional population generated by the proposed project. In addition, increases in air emissions, dust, noise and erosion during construction of future park and open space amenities could result in potentially significant impacts. Implementation of mitigation measures described in this EIR would reduce impacts to a less than significant level.
- Transportation/Traffic – The proposed project would add traffic to the following intersections causing each intersection to operate at an unacceptable level of service (LOS) in the PM peak hour: Idaho-Maryland Road and Brunswick Road; La Barr Meadows Drive and McKnight Way; and, Brunswick Road and Triple Crown Road. Mitigation measures identified in the EIR would reduce potentially significant traffic impacts at these intersections to a less than significant level.

In addition to adding traffic to existing intersections, the project would construct new project driveways along the project area street network. Restricted sight distance and close spacing of these intersections would result in impacts to safety and traffic operations. Mitigation measures identified in the EIR would reduce impacts to a less than significant level. However, these mitigation measures involve substantial intersection improvements including the construction of roundabouts. It is unknown when the intersection improvements would occur as part of the Grass Valley Capital Improvement Program. It is also unknown if the construction of the complete intersection would be feasible for a single project developer. Furthermore, the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley. As such, potential impacts on these intersections would remain significant and unavoidable.

Cumulative traffic to the following intersections would cause each intersection to operate at an unacceptable level of service (LOS): Nevada City Highway and Brunswick Road; Brunswick Road and Town Talk Road; SR 49 Northbound Ramps and McKnight Way; and SR 49 and Combie Road. Implementation of mitigation measures would reduce cumulative traffic impacts to less than significant; however, the County of Nevada does not have jurisdiction over the approval of funding or construction timing of when the improvement would occur within the City of Grass Valley. For this reason, these cumulative traffic impacts remain significant and unavoidable.

6.3 PROJECT ALTERNATIVES

6.3.1 SELECTION OF ALTERNATIVES

In accordance with CEQA, appropriate project alternatives are those that meet most of the project's basic objectives and avoid or substantially lessen the significant environmental impacts of the proposed project. The alternatives analyzed in this chapter were selected for their potential to eliminate or reduce project impacts, for their potential to generate fewer impacts or require lesser levels of mitigation, and to provide a comparison between the project's impacts with those that may occur from future development anticipated by the existing Nevada County General Plan (County General Plan) and the 2020 General Plan (Alternative 2). These alternatives include:

- Alternative 1: No Project/Future Development Under Existing Nevada County General Plan
- Alternative 2: Bennett Street Sites
- Alternative 3: Berriman Ranch Sites
- Alternative 4: Reduced Development

ALTERNATIVES CONSIDERED AND REJECTED FROM FURTHER ANALYSIS

Two additional sites were reviewed as potential candidate sites for including in the RH Combining District program. The location of these sites are shown in Figure 6-1, *Alternative Site Locations*. These alternative sites were considered as potential alternative sites but were rejected from further analysis for the reasons discussed below.

North Star Site

The North Star site is approximately 735 acres in size and is located on the east side of SR 49, south of McCourtney Road between Old Auburn Road on the west and Allison Ranch Road on the east. This site is located within the Grass Valley Sphere of Influence area. Utilizing a portion of this site was considered for implementing a portion of the RH Combining District. However, based up a preliminary site assessment of the property, further analysis as an alternative site was not considered for the following reasons:

- The property has existing hazardous conditions and hazardous materials onsite as a result of past mining activities.
- The project site is currently designated as a Special Development Area (SDA); and has a comprehensive plan for the property that would develop the site with a variety of uses including single-family residential, commercial, business park, hotel site, and public facilities. As a result, it would not be feasible to develop only a portion of the site with multi-family uses without having to reconfigure the whole plan.
- Currently, the surrounding area is undeveloped. There is no existing infrastructure with regards to roadways, water line, sewer lines, or public transportation opportunities in the surrounding area.
- The property owner has not expressed a desire to participate in the Housing Element Rezone Program.

Kenny Ranch Site

The Kenny Ranch site is located just to the northeast of the City of Grass Valley limits, north of the intersection of Rough and Ready Highway/Main Street/Adam Avenue. The proposed area of development consists of approximately 324 undeveloped acres. Like the North Star site, this property is located within the Grass Valley Sphere of Influence area. Because of the property's size it was considered as a potential alternative site location for inclusion in the RH Combining District. However, further analysis was not considered for this site for the following reasons:

- Like the North Star site, this property is also within a Special Development Area and a comprehensive plan for the project has been established. To develop a portion of this site with multi-family housing would require the planning effort to make substantial changes.
- The Kenny Ranch property is owned by multiple owners who have not expressed a desire to participate in the program.

6.3.2 COMPARISON OF ALTERNATIVES

CEQA does not specify the methodology for comparing alternatives. However, the issues and impacts that are most germane to a particular project must be evaluated when comparing an alternative to a proposed project. As such, the issues and impacts analyzed in project alternatives vary depending on the project type and the environmental setting. Long-term impacts (e.g., visual impacts and permanent loss of habitat or land use conflicts) are those that are generally given more weight in comparing alternatives. Impacts associated with construction (i.e., temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

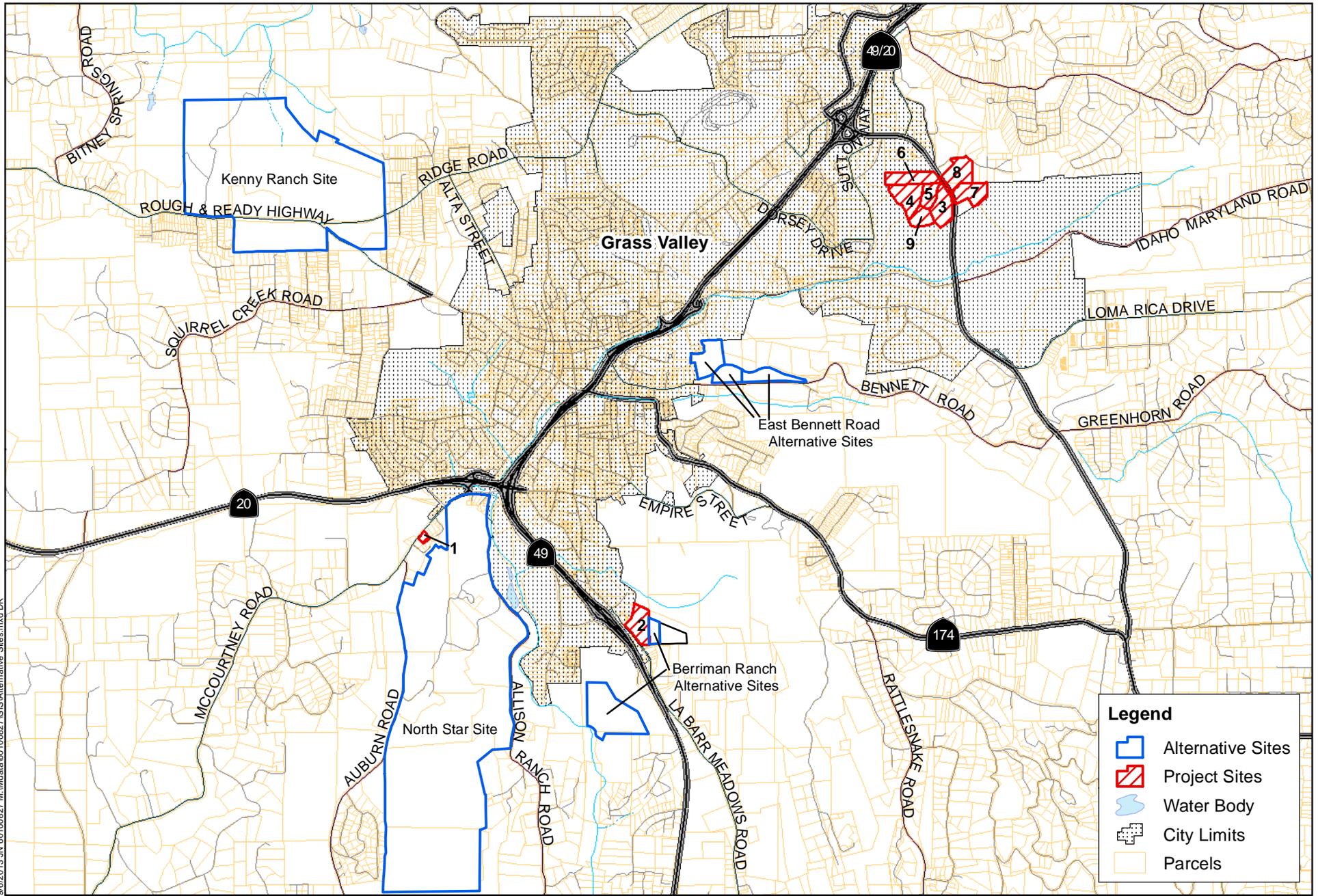
The alternatives analysis below compares each alternative to the proposed project according to whether it would have a mitigating or adverse effect for each of the environmental resource areas analyzed in this EIR.

6.3.3 ALTERNATIVES ANALYSIS

ALTERNATIVE 1: NO PROJECT / FUTURE DEVELOPMENT UNDER EXISTING NEVADA COUNTY GENERAL PLAN

Description of Alternative

Under the No Project/Future Development Under Existing Nevada County General Plan Alternative (Alternative 1), the project area would remain under the jurisdiction of Nevada County (County). Since the project consists of 19 separate parcels (Site 8 consists of two parcels), there is a potential to develop 15 additional homes (assuming the four existing homes on the existing site remain) under County regulations. However, there would be no environmental review of the potential impacts associated with the construction of the 15 homes, as their construction would require approval of a building permit only (a ministerial action) and would be exempt from the requirements of CEQA. It should be noted that although some of the sites are zoned as Office Professional, Business Park, and Medium Density Residential Development, future developments of that nature would require a site plan, discretionary approval, and subsequently CEQA review. In addition, given the options



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Source: Nevada County GIS 2013; ESRI 2013.

COUNTY OF NEVADA
2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Alternative Site Locations

Figure 6-1

of site design (e.g. densities, it is speculative to determine and compare the type of land use on the sites. Therefore, under the No Project Alternative it is assumed the sites would be developed with single-family residential developments.

It should also be noted that the second dwelling units as an accessory use are permitted with only a building permit as well. The County allows a secondary dwelling unit to be built by right on any property within specific residential zone specified in Section L-II 3.19.1 of the Nevada County Land Use and Development Code. This includes zones R-1, R2, and RA which would apply to Sites 3-9, 12, 17, and 18. The second dwelling unit can be no larger than 1,200 square feet. Even if all of the eligible properties built a second dwelling unit, it would not substantially increase the amount of housing units within the project area. Since the Zoning Regulations do not consider second dwelling units in the density calculation of a property, for purposes of this No Project Alternative, the analysis assumes that each property would develop with one single-family dwelling unit.

With the exception of the potential construction of 15 homes, the existing conditions within the project area would remain primarily unchanged. The majority of the undeveloped areas on the properties (woodlands, chaparral, riparian corridors and grasslands) would continue to function in their current capacity.

None of the sites within the Grass Valley Sphere of Influence would annex into the City. The County would not be in compliance with state law with regards to providing enough property with high density residential zoning. This alternative would not satisfy the project objectives stated in Chapter 3 (Project Description), which are re-stated above.

Environmental Impacts Compared to the Project

Land Use and Planning

Under Alternative 1, the type and distribution of land uses would be different than those proposed by the project. Residential density would be substantially less and no business/industrial, retail/commercial or mixed uses would develop. In addition, the project area would not be annexed into the City. Neither Alternative 1 nor the proposed project would physically divide existing communities within the County or City's Sphere of Influence or Planning Area or be affected by habitat conservation plans or natural community conservation plans. Alternative 1 would not require any changes to the existing land use designation. Alternative 1 would avoid any potential land use conflicts as a result of increased densities with the existing City of Grass Valley General Plan. Therefore, Alternative 1 would have reduced impacts compared to the proposed project.

Aesthetics

The construction of the individual single-family homes under Alternative 1 would only require approval of a building permit and, therefore, would not be subject to the Western Nevada County Design Guidelines. In addition, the construction of the homes could occur anywhere on their respective parcels and there would be no guidance or direction with respect to the visual quality of new urban development and protection of aesthetic resources within the proposed project areas. In addition, the construction activities associated with the single-family homes that might occur under Alternative 1 would not be expected to temporarily degrade scenic views or the visual quality of the area, or increase light and glare. Moreover, single-family homes would not be expected to permanently alter scenic views of on-site natural features or permanently increase light and glare. The proposed project would

not temporarily degrade scenic views or the visual quality of the area, or increase light and glare during construction with the implementation of mitigation. Similarly, with adherence to County and City regulations and implementation of mitigation, future development consistent with the proposed project areas would not be expected to permanently alter scenic views of onsite natural features or permanently increase light and glare. Nonetheless, because there would be less development within the project area, Alternative 1 would result in lesser aesthetic impacts and a slight improvement compared to the project.

Air Quality and Greenhouse Gas

Alternative 1 would result in substantially less development than the proposed project. Air pollutant emissions from the construction of 15 single-family homes would not be expected to exceed Northern Sierra Air Quality Management District (NSAQMD) thresholds with the incorporation of NSAQMD suggested emissions reduction measures. Similarly, the stationary and mobile air pollutant emissions associated with the occupation of 15 single-family homes would not be expected to exceed NSAQMD thresholds. Because Alternative 1 would not result in any significant air quality impacts (contribute to a pollutant for which the area is nonattainment), it would not conflict with the applicable air quality management plans or result in any cumulatively considerable impacts on air quality. Alternative 1 in combination with other projects would not cumulatively contribute GHG emissions in amounts that could hinder the state's ability to achieve AB 32 goals. Thus, Alternative 1 would avoid all of the significant and unavoidable impacts of the proposed project and would be considered a substantial improvement compared to the proposed project.

Biological Resources

Because Alternative 1 would result in substantially less development than the proposed project, its potential to adversely affect biological resources would be reduced compared to the proposed project and the biological impacts discussed in Section 4.4. In spite of this, there would be limited environmental review of the potential biological resource impacts associated with this alternative. No ESAs would be dedicated to protect wetland and riparian habitats and no recommended mitigation measures for any identified impacts, as the construction of the eight homes under this alternative would only require approval of a building permit and a Comprehensive Site Plan review process. The Comprehensive Site Plan review process would ensure buildings are outside of any watercourse setbacks, flood plains and previously identified sensitive biological resources. However, this review process is not considered a discretionary permit and as such, is not subject to the requirements of CEQA. It is possible that the individual land owners could damage or destroy significant biological resources, as the construction of the homes would not be required to undergo review by the Nevada County Planning Department for consistency with applicable Nevada County General Plan goals, objectives and policies related to biological resource protection. While individual land owners would be subject to state and federal regulations designed to protect biological resources, the proposed project would still have greater impacts on biological resources when compared to Alternative 1 given the overall size of the proposed development. As such, Alternative 1 would result in a reduction of impacts.

Cultural Resources

Alternative 1 would result in substantially less development than the proposed project. Far less area would be disturbed under this alternative than under the proposed project. This alternative's potential to disturb or destroy prehistoric, historic or paleontological resources

during construction would be greatly reduced compared to the proposed project. However, because the construction of the 15 homes under this alternative would only require approval of a building permit, this alternative would be exempt from the requirements of CEQA and there would be no requirement for ESAs. Thus, there would be no environmental review of the potential cultural resource impacts associated with this alternative and no recommended mitigation measures for any identified impacts. Under this alternative, individual land owners could possibly alter or destroy potentially significant cultural resources, as Nevada County General Plan goals, objectives and policies related to cultural resource protection do not apply to ministerial project permits for single-family residences on individual lots. While individual land owners would be subject to state and federal regulations designed to protect cultural resources, the proposed project would still have greater impacts on cultural resources when compared to Alternative 1 given the overall size of the proposed development. As such, Alternative 1 would result in reduced impacts.

Geology and Soils

Compared to the proposed project, Alternative 1 would result in substantially less development than the proposed project. Consequently, it would expose far fewer structures and people to potential seismic and unstable soil hazards. However, both Alternative 1 and the proposed project would be required to comply with current federal, state and local regulations that contain specific requirements designed to minimize impacts related to geologic and seismic hazards. In addition, any development within the project area would be required to implement site-specific measures on a project-by-project basis to address seismic and geologic hazards. For these reasons, Alternative 1 would result in a slight improvement compared to the proposed project.

Hazards and Hazardous Materials

Since Alternative 1 would allow for a substantially smaller population than the proposed project, it would have the potential to expose fewer people to risks associated with hazards and hazardous materials. There would be less development on sites 3 through 9 would require adherence to all policies established by the Nevada County Airport Land Use Compatibility Plan to reduce safety hazards related to aviation accidents. Nonetheless, new development under Alternative 1 and the proposed project would be subject to federal, state and local regulations that would reduce the potential for hazards and hazardous materials impacts to less than significant. As a result, Alternative 1 would be a slight improvement compared to the proposed project.

Hydrology and Water Quality

Alternative 1 could result in the construction of 15 single-family homes. Thus, it would have a substantially reduced potential to degrade water quality during its operation than the proposed project. Moreover, the increased pervious surface area of Alternative 1 would allow for more infiltration and less stormwater runoff than the proposed project, but there would be no ESAs restricting development in the 100-year floodplain. For these reasons, Alternative 1 would be a substantial improvement over the proposed project.

Noise

Under Alternative 1, 15 single-family homes could be constructed. As a result, noise and ground-bourne vibration associated with construction activities would be substantially reduced compared to the proposed project. Due to the large area that the homes could be

constructed over, there would be a minimal chance that the noise and ground-bourne vibration associated with their construction could have an impact on nearby sensitive uses. Further, construction activities would be required to comply with County and City policies and regulations, which would reduce any potential noise impacts from construction to less than significant. The proposed project would also be required to comply with County and City policies and regulations, as well as implement mitigation to reduce noise and ground-bourne vibration impacts to less than significant. Traffic from the 15 single-family homes would not increase noise levels, such that it could have an adverse effect on sensitive uses. Traffic from the project would also not increase noise levels, such that it could have an adverse effect on sensitive uses. Because all of the project's potentially significant noise impacts can be mitigated to less than significant, noise associated with the project would not result in a significant impact. Thus, noise resulting from the proposed project should not be substantially worse than noise associated with Alternative 1, as it can be mitigated to less than significant. As a result, Alternative 1 would be a slight improvement over the proposed project.

Population and Housing

Development under Alternative 1 would result in substantially less development than the proposed project. Similar to the proposed project, Alternative 1 would be within the growth estimates identified in the County's and City's general plans, and would not displace existing housing or people. Alternative 1 would not result in induced growth within the City of Grass Valley as a result of increased densities within the Sphere of Influence area. As a result, Alternative 1 would be a slight improvement over the proposed project.

Public Services, Utilities and Service Systems

Alternative 1 would result in a maximum of 15 single-family homes and a substantially lower population than the proposed project. As a result, the demand for services and utilities under Alternative 1 would be substantially lower, which would be a considerable improvement compared to the proposed project. However, the potential impacts on fire and police protection services, school capacity and sewer line capacity associated with the proposed project could be mitigated to less than significant. Thus, Alternative 1 is considered to be a slight improvement compared to the proposed project.

Recreation

Fewer people would be added to the project areas under Alternative 1 than the proposed project. As a result, it would create considerably less demand for park and recreational facilities. However, Alternative 1 would not provide for the park amenities per population as identified in the County's and City's general plans that are required for the proposed project. Consequently, Alternative 1 would result in a slight improvement when compared to the proposed project.

Transportation/Traffic

Under Alternative 1, there would be substantially less development resulting in considerably less daily vehicle trips and no impacts on local roadways. The majority of traffic impacts associated with implementation of the proposed project could be reduced to less than significant. However, the proposed project would result in significant and unavoidable cumulative traffic impacts at multiple intersections. Alternative 1 would completely avoid

the significant and unavoidable cumulative traffic impacts associated with the project. Therefore, Alternative 1 would be a substantial improvement over the proposed project.

ALTERNATIVE 2: EAST BENNETT ROAD SITES

Description of Alternative

The East Bennett Road Sites Alternative (Alternative 2) would relocate approximately half of the proposed units that are located on Brunswick Road (on Sites 3 through 9) and place them on property on undeveloped land on East Bennett Road, in an area zoned for business park west of Lava Rock Road; see Figure 6-1. The purpose of this alternative is to reduce the number of proposed units along Brunswick Road. The proposed project has a total of 7 sites totaling 61.52 acres and a total maximum number of 1,231 units clustered together in Sites 3 through 9. This alternative proposes to move approximately half of the units to properties off of East Bennett Road to disperse the additional demand on existing traffic facilities, sewer and water facilities, and other City of Grass Valley infrastructure. The East Bennett Road sites would be within the Grass Valley Sphere of Influence (Near Term Annexation), the same as the proposed project.

Because Sites 3, 4, 5, and 9 are under a single ownership and represent approximately half of the total acreage within the cluster of sites along Brunswick Road, those sites would remain part of the project as they are in the proposed project. Sites 3, 4, 5, and 9 represent approximately 31.49 acres and 630 units. Sites 6, 7, and 8, which total 30.03 acres and 601 units, would be dropped from the program and no development under the RH Combining District would occur on those sites. Three new sites would be selected on the north side of East Bennett Road. The new site numbers would be 6, 7, and 8 to replace those sites from the proposed project. The three sites are approximately 29.74 acres and would have a maximum yield of 595 units. A summary of the maximum yield for the new sites is provided in Table 6-1. Alternative 2 would result in the same number of units as the proposed project.

Table 6-1
East Bennett Road Sites Maximum Yield

New Site Number	APN	Existing Zone	Proposed Density (du/acre)	Property Size (acres)	Maximum Yield
6	09-560-05	BP	20	7.9	158
7	09-560-10	BP	20	8.8	176
8	09-560-33	BP	20	13.04	261
TOTAL				29.74	595

A summary of the total maximum yield for all of the sites in the East Bennett Road Alternative is provided in Table 6-2.

**Table 6-2
 Theoretical Yield of East Bennett Road Alternative Sites**

Site	1	2	3	4	5	6*	7*	8*	9	10	11	12	13	14	15	16	17	18	TOTAL ¹
Parcel Area (Acres)	1.08	11.36	9.15	11.35	4.5	7.9	8.8	13.04	6.49	5.95	3.1	4.37	20.1	5.0	5.0	18.12	2.36	11.03	148.7
Building Density (du/acres)	20	20	20	20	20	20	20	20	20	16	16	16	16	16	16	16	16	16	-
Maximum Yield (Units)	22	227	183	227	90	158	176	261	130	95	50	70	322	80	80	290	38	176	2,675

*New Sites for this Alternative

¹ For comparison, the proposed project is 148.99 acres and 2,675 units.

Alternative 2 could meet all of the project objectives with the exception of the objective requiring consenting property owners to participate in the program. Property owner agreement to the RH Combining District was a critical objective of the County Board of Supervisors from the very beginning of the implementation program. Only sites with property owner consent were considered for inclusion in the proposed project.

Environmental Impacts Compared to the Project

Land Use and Planning

Alternative 2 would have substantially the same number of units as the proposed project. However, the cluster of units along Brunswick Road would be approximately half that of the proposed project. The same RH Combining District would apply to the East Bennett Road sites the same as the sites on Brunswick Road and throughout the rest of the projects. The East Bennett Road sites are within the City of Grass Valley SOI and would require annexation into the City. Like the proposed projects, these sites are located within the Overflight Zone D* - Urban Overlay Zone for the Nevada County Airport.

One key difference is that the underlying zoning for Sites 6, 7, and 8 under the proposed project is for residential and the underlying zoning for Sites 6, 7, and 8 under Alternative 2 is Business Park. As such, this alternative would convert approximately 30 acres of land previously zoned for Business Park into residential use thereby removing future opportunities for expansion of business park uses within the City. While land use impacts would be mostly the same as the proposed project, Alternative 2 would add an incremental increase in land use conflict as a result of the loss of previously zoned business park land.

Aesthetics

Alternative 2 would likely contain similar guidance and direction addressing the visual appearance of new development and the protection of aesthetic resources as the proposed project. As a result, the potential aesthetic impacts of new development would be mitigated in the same manner as the proposed project (adherence to County and City regulations and design guideline requirements). Alternative 2 would result in some separation of proposed development projects along the Brunswick Road corridor. Site 6 is located just south of the Makiah project to the north and Site 7 is just north of the Loma Rica Ranch project. Relocating the development on these sites to East Bennett Road will result in physical and visual separation among the projects located along Brunswick Road. For these reasons, aesthetic impacts associated with Alternative 2 would be slightly less compared to the proposed project.

Air Quality and Greenhouse Gases

Alternative 2 would result in approximately the same residential development compared to the proposed project. Like the proposed project, Alternative 2 would be expected to contribute to pollutants for which the area is in nonattainment, would conflict with applicable air quality management plans and would result in cumulatively considerable impacts on air quality. As with the proposed project, Alternative 2 in combination with other projects would cumulatively contribute GHG emissions in amounts that could hinder the state's ability to achieve AB 32 goals. For these reasons, Alternative 2 would result in equivalent air quality impacts and a substantial deterioration compared to the proposed project.

Biological Resources

Alternative 2 would not result in development that would affect biological resources any more or less than development under the proposed project. The sites located on East Bennett Road are undeveloped and have a mix of native and non-native vegetation. Some of the sites contain oak woodland and riparian habitats similar to the sites on Brunswick Road. Alternative 2 would likely contain similar guidance and direction as the proposed project regarding the protection of biological resources. Additionally, the mitigation required for the proposed project to protect biological resources would also be required under Alternative 2. For these reasons, impacts to biological resources under Alternative 2 would be equivalent to the proposed project.

Cultural Resources

Under Alternative 2 three sites would be moved to undeveloped properties on East Bennett Road. Alternative 2 could disturb or destroy potentially significant cultural resources in a manner comparable to the proposed project. Mitigation addressing identification, treatment and protection of cultural resources would be required for both Alternative 2 and the proposed project. For these reasons, impacts associated with Alternative 2 would be equivalent to the proposed project.

Geology and Soils

Similar to the proposed project, each site in Alternative 2 would require site-specific measures on a site-by-site basis to address seismic and geologic hazards, and both would be subject to federal, state and local regulations designed to reduce the potential for geological and soils-related impacts. Overall, fewer people would be exposed to seismic and unstable soil hazards under Alternative 2. Thus, Alternative 2 would result in an equivalent impact and a slight improvement when compared to the proposed project.

Hazards and Hazardous Materials

Similar to the proposed project, Alternative 2 would place residents within the same fire risk area and within the same Zone D of the Nevada County Airport Land Use Compatibility Plan as the proposed project. Nonetheless, federal, state and local regulations would mitigate potential hazards and hazardous materials impacts under Alternative 2, as they would under the proposed project. When compared to the proposed project, Alternative 2 would have equivalent impacts associated with hazards and hazardous materials.

Hydrology and Water Quality

Alternative 2 would have a similar development footprint to the proposed project with the exception of approximately 595 units moving from Brunswick Road to East Bennett Road. Surface water runoff would flow to the same Wolf Creek watershed. Alternative 2 would have a similar increase in impervious surface area and risk of flooding, stormwater contamination and degradation of water quality in receiving water bodies. Like the proposed project, Alternative 2 would be required to comply with applicable state and local regulations, and would also be required to implement site-specific measures on a project-by-project basis to address flooding and other hydrologic impacts. As a result, Alternative 2 would have the same impacts as the proposed project.

Noise

Alternative 2 would have overall slightly decreased noise compared to the proposed project because approximately 595 units would be dispersed from the cluster of development along Brunswick Road. Regardless, traffic noise from either Alternative 2 or the proposed project would not exceed established standards and mitigation would be required for each scenario to prevent potential noise impacts on any sensitive uses if they are proposed along specific roadways. Similarly, construction activity would be subject to City policies and regulations and mitigation for construction noise and ground-borne vibration would be required, reducing construction noise and ground-borne vibration impacts to less than significant. Both Alternative 2 and the project would be required to mitigate potential stationary mechanical noise impacts to less than significant. Alternative 2 would have a slight decrease in noise impacts compared to the proposed project.

Population and Housing

Compared to the proposed project, Alternative 2 would result in approximately the same number of units as the proposed project. Similar to the proposed project, this alternative would be within the growth estimates identified in the County's 1995 General Plan and, like the proposed project, would exceed estimates the City's 2020 General Plan because of the higher densities proposed on the sites within the City's Sphere of Influence. Similar to the proposed project Alternative 2 would not displace existing housing or people. Consequently, Alternative 2 would result in equivalent impacts compared to the proposed project.

Public Services, Utilities and Service Systems

Population and growth associated with Alternative 2 would result in approximately the same number of residents as the proposed project. As such, Alternative 2 would have the same demand for fire and police services and utilities when compared to the proposed project. Similar to the proposed project, Alternative 2 would require the units on East Bennett Road to annex into the City to receive water and sewer service. Similar to the proposed project, mitigation measures to reduce potential utility impacts associated with the water and sewer demand increases would be required. Thus, Alternative 2 would result in similar impacts on public services and utilities when compared to the proposed project.

Recreation

Alternative 2 would result in the same amount of residential development as the proposed project and would have a similar demand for park and recreational facilities. Thus, Alternative 2 would be equivalent to the proposed project.

Transportation/Traffic

Although Alternative 2 would have substantially the same number of units as the proposed project, it would disperse up to 595 units from Brunswick Road to East Bennett Road. The vehicle trips associated with Alternative 2 would result in similar potentially significant mitigated and significant and unavoidable direct impacts due to the same circumstance of the County not having jurisdiction over intersection improvements within the City of Grass Valley. The potential safety risks associated with driveway intersections would be similar to those under the proposed project, and similar mitigation would reduce the impacts to less than significant. In addition, Alternative 2 relocating up to 595 units would result in incrementally less cumulative traffic impacts on Brunswick Road at the Town Talk and SR 49 intersections, but cumulative impacts on intersections within the City's Sphere of Influence would remain significant and unavoidable due to the implementation authority for the mitigation measures being outside the County's jurisdiction. Therefore, Alternative 2 would have reduced traffic impacts compared to the proposed project.

ALTERNATIVE 3: BERRIMAN RANCH SITES

As shown in Figure 6-1, the Berriman Ranch Sites Alternative (Alternative 3) includes two separate sites. The larger of the two sites includes a 25.2-acre site (portions of APNs 22-160-03 and 22-160-02) within the proposed 129-acre Berriman Ranch Project. The smaller of the two parcels is located across SR 49 to the west adjacent to Site 2. Only a portion of this 19 site (APN 09-620-12) adjacent to Site 2 would be used for this Alternative. Approximately 8 acres of this site, the area adjacent to Site 2, would be used for development associated with the implementation of the RH Combining District. The 129-acre Berriman Ranch Property is located adjacent to the city boundary of Grass Valley. Currently, there is no improved access to the 25.2-acre site. An access road would have to be extended from an existing public road or through a private road easement. The eight-acre site would be accessed off of La Barre Meadows Road which runs along the property frontage or through a connection to Site 2.

The portion of the Berriman Ranch property included in this alternative is undeveloped and consists of mostly dense woodland forest. This property consists of rolling to steep terrain, generally draining towards the southwest. Wolf Creek is southwest of the site. The habitat on this site is Ponderosa pine woodland and forest area dominated by Ponderosa pines, incense cedars, and black oaks. The property also contains annual grasslands, with several wetland and riparian habitats.¹

The area adjacent to Site 2 is also undeveloped, and contains a more sparsely populated Sierran Mixed Conifer habitat like Site 2.

Similar to Alternative 2, the intent of this alternative is to disperse the large cluster of development sites located along Brunswick Road. For the reasons described above, Alternative 3 would also include the relocation of Sites 6, 7, and 8. Sites 6, 7, and 8, totaling 30.03 acres and a maximum 601 units, would be dropped from the program and no development under the RH Combining District would occur on those sites. Sites 6, 7, and 8 represent approximately half of the area of the proposed site along Brunswick Road.

¹ Berriman Ranch, Annexation 10PLN-03, Prezone 10PLN-05, Planned Development 10PLN-04, and Tentative Map 10PLN-06; Initial Study and Proposed Negative Declaration, http://www.cityofgrassvalley.com/services/departments/cdd/AdoptedNegDecs/InitialStudy_BR.pdf, accessed July 31, 2013.

Because Sites 3, 4, 5, and 9 are under a single ownership, it is anticipated that certain efficiencies in developing the site would be achieved through a single development plan, minimizing impacts, and building infrastructure onsite. For these reasons, Alternative 3 includes these sites as well as the other sites identified in the proposed project unchanged.

For Alternative 3, the new site numbers would be 6 and 7 to replace those sites removed from the proposed project. The two new sites included in this alternative are approximately 33.2 acres and would have a maximum yield of 595 units. A summary of the maximum yield for the new sites is provided in Table 6-3.

**Table 6-3
 Berriman Ranch Alternative Sites Maximum Yield**

New Site Number	APN	Existing Zone	Proposed Density (du/acre)	Property Size (acres)	Maximum Yield
6	Por. 22-160-03 and 22-160-02	R-2	20	25.2	504
7	09-620-12	R-2	20	8	160
TOTAL				33.20	664

A summary of the total maximum yield for all of the sites in the Berriman Ranch Alternative is provided in Table 6-4. The proposed project would have a maximum yield of 2,675 units, and Alternative 3 would yield a maximum of 2,744 units, an increase of 69 units.

**Table 6-4
 Theoretical Yield of Berriman Alternative Sites**

Site	1	2	3	4	5	6*	7*	8	9	10	11	12	13	14	15	16	17	TOTAL ¹
Parcel Area (Acres)	1.08	11.36	9.15	11.35	4.5	25.2	8	6.49	5.95	3.1	4.37	20.1	5.0	5.0	18.12	2.36	11.03	152.16
Building Density (du/acres)	20	20	20	20	20	20	20	20	16	16	16	16	16	16	16	16	16	-
Maximum Yield (Units)	22	227	183	227	90	504	160	130	95	50	70	322	80	80	290	38	176	2,744

Note: This alternative has 17 total sites because three sites from the proposed project have been replaced with two.

*New Sites for this Alternative

¹ For comparison, the proposed project is 148.99 acres and 2,675 units.

Alternative 3 could meet all of the project objectives with the exception of the objective requiring consenting property owners to participate in the program. Property owner agreement to the RH Combining District was a critical objective of the County Board of Supervisors from the very beginning of the implementation program. Only sites with property owner consent were considered for inclusion in the proposed project.

Environmental Impacts Compared to the Project

Land Use and Planning

Alternative 3 would have substantially the same number of units as the proposed project. However, the cluster of units along Brunswick Road would be approximately half that of the proposed project. The same RH Combining District would apply to the Berriman Ranch sites, the same as the sites on Brunswick Road and throughout the rest of the projects. The Alternative 3 sites are within the City of Grass Valley SOI and would require annexation into the City.

The new sites 6 and 7 in this alternative are zoned R-2 Medium Density which allows 6 dwelling units per acre. The density under the RH Combining District would allow up to 20 units per acre, which is more than three times what is permitted by the existing zone and is a higher density than the current development in the surrounding area. The same potential conflicts with the City's existing land use designations would occur with this alternative as with the proposed project.

The Alternative 3 sites are outside of the Overflight Zone D*-Urban Overlay Zone for the Nevada County Airport which is located just south and east of the sites along Brunswick Road and east of the Alternative 2 sites.

However, it should be noted that Sites 6 and 7 are part of larger development applications that have been submitted to the City of Grass Valley. The development applications include annexation into the City and propose larger planned development that could include single family residential and commercial development and open space areas.

Aesthetics

Alternative 3 would likely contain similar guidance and direction addressing the visual appearance of new development and the protection of aesthetic resources as the proposed project. As a result, the potential aesthetic impacts of new development would be mitigated in the same manner as the proposed project (adherence to County and City regulations and design guideline requirements). Because of the sloped terrain on Site 6 (the larger of Berriman Ranch sites), Alternative 3 would result in increased grading and clearing of the existing woodlands in order to create building pads, parking areas, and driveways associated with multi-family development. However, most of the views from public vantage points such as SR 49 would be screened from view due to the existing woodlands that line the highway in this area. Relocating the development on these sites to Berriman Ranch will result in physical and visual separation among the projects located along Brunswick Road. Because of the proximity of the proposed project Sites 6, 7, and 8 to Brunswick Road, the reduction in density along Brunswick Road would be more noticeable to the public than the development at Berriman Ranch because of the existing screening along SR 49. For these reasons, aesthetic impacts associated with Alternative 3 would be slightly less compared to the proposed project.

Air Quality and Greenhouse Gases

Alternative 3 would result in approximately the same residential development compared to the proposed project. Like the proposed project, Alternative 3 would be expected to contribute to pollutants for which the area is in nonattainment, would conflict with applicable air quality management plans and would result in cumulatively considerable impacts on air quality. As with the proposed project, Alternative 3 in combination with other projects would cumulatively contribute GHG emissions in amounts that could hinder the state's ability to achieve AB 32 goals. For these reasons, Alternative 3 would result in equivalent air quality impacts and a substantial deterioration compared to the proposed project.

Biological Resources

Alternative 3 would result in development that would likely affect biological resources more than the development under the proposed project. The Berriman Ranch sites are undeveloped and mostly native vegetation including mature woodlands. Site 6 contains

Ponderosa Pine Woodland, black oaks, and riparian habitat associated with Wolf Creek. Site 7 contains Sierra Mixed Conifer woodlands similar to the sites on Brunswick Road. Alternative 3 would likely contain similar guidance and direction as the proposed project regarding the protection of biological resources. Additionally, the mitigation required for the proposed project to protect biological resources would also be required under Alternative 3. Because of the amount of undisturbed Ponderosa Pine on Site 7, impacts to biological resources under Alternative 3 would be considered greater than the proposed project.

Cultural Resources

Under Alternative 3, three sites would be moved to undeveloped properties on East Bennett Road. Alternative 3 could disturb or destroy potentially significant cultural resources in a manner comparable to the proposed project. Mitigation addressing identification, treatment and protection of cultural resources would be required for both Alternative 3 and the proposed project. For these reasons, impacts associated with Alternative 3 would be equivalent to the proposed project.

Geology and Soils

Similar to the proposed project, each site in Alternative 3 would require site-specific measures on a site-by-site basis to address seismic and geologic hazards and both would be subject to federal, state and local regulations designed to reduce the potential for geological and soils-related impacts. Overall, fewer people would be exposed to seismic and unstable soil hazards under Alternative 3. Thus, Alternative 3 would result in an equivalent impact and a slight improvement when compared to the proposed project.

Hazards and Hazardous Materials

Alternative 3 would place residents within the same fire risk area as the proposed project, but would move up to 664 housing units (assuming maximum buildout) out of Zone D*-Urban Overlay Zone of the Nevada County Airport Land Use Compatibility Plan. Federal, state and local regulations would mitigate potential hazards and hazardous materials impacts under Alternative 3, as they would under the proposed project. When compared to the proposed project, Alternative 3 would have fewer impacts associated with hazards and hazardous materials.

Hydrology and Water Quality

Alternative 3 would have a similar development footprint to the proposed project with the exception of approximately 664 units moving from Brunswick Road to the Berriman Ranch area. Surface water runoff would flow to the same Wolf Creek watershed. Alternative 3 would have a similar increase in impervious surface area and risk of flooding, stormwater contamination and degradation of water quality in receiving water bodies. Like the proposed project, Alternative 3 would be required to comply with applicable state and local regulations, and would also be required to implement site-specific measures on a project-by-project basis to address flooding and other hydrologic impacts. As a result, Alternative 3 would have the same impacts as the proposed project.

Noise

Alternative 3 would have overall slightly decreased noise compared to the proposed project because approximately 664 units would be dispersed from the cluster of development along

Brunswick Road. Regardless, traffic noise from either Alternative 3 or the proposed project would not exceed established standards and mitigation would be required for each scenario to prevent potential noise impacts on any sensitive uses if they are proposed along specific roadways. Similarly, construction activity would be subject to City policies and regulations and mitigation for construction noise and ground-borne vibration would be required, reducing construction noise and ground-borne vibration impacts to less than significant. Both Alternative 3 and the proposed project would be required to mitigate potential stationary mechanical noise impacts to less than significant. Alternative 3 would have a slight decrease in noise impacts compared to the proposed project.

Population and Housing

Compared to the proposed project, Alternative 3 would result in approximately 69 additional units. Similar to the proposed project, this alternative would be within the growth estimates identified in the County's 1995 General Plan and, like the proposed project, would exceed estimates the City's 2020 General Plan because of the higher densities proposed on the sites within the City's Sphere of Influence. Similar to the proposed project Alternative 3 would not displace existing housing or people. Consequently, Alternative 3 would result in equivalent impacts compared to the proposed project.

Public Services, Utilities and Service Systems

Population and growth associated with Alternative 3 would result in approximately the same number of residents as the proposed project. As such, Alternative 3 would have the same demand for fire and police services and utilities when compared to the proposed project. Similar to the proposed project, Alternative 3 would require the units on East Bennett Road to annex into the City to receive water and sewer service. Similar to the proposed project, mitigation measures to reduce potential utility impacts associated with the water and sewer demand increases would be required, but would still be considered significant and unavoidable, due to the unknown capacities at the time development of the sites would occur. Thus, Alternative 3 would result in similar impacts on public services and utilities when compared to the proposed project.

Recreation

Alternative 3 would result in the same amount of residential development as the proposed project and would have a similar demand for park and recreational facilities. Thus, Alternative 3 would be equivalent to the proposed project.

Transportation/Traffic

Although Alternative 3 would have a slightly increased number of units (69) compared to the proposed project, it would disperse up to 664 units from Brunswick Road to the McCourtney Road and the McKnight/SR 49 interchange, and La Barr Meadows Road. La Barr Meadows Road is projected to operate at an unacceptable LOS F with or without the project. This alternative would add up to another 160 units adjacent to Site 2 that would be served by this intersection which would increase the impact. The vehicle trips associated with Alternative 3 would result in similar significant and unavoidable direct impacts. The mitigation would be the same as the proposed project but would remain significant because the requirement for constructing dual roundabouts may not be feasible for a single developer and would be outside the jurisdiction of the County. The potential safety risks associated with driveway intersections would be similar to those under the proposed project, and similar mitigation

would reduce the impacts to less than significant. However, with Alternative 3 relocating up to 664 units, cumulative traffic impacts on Brunswick Road at the Town Talk and SR 49 intersections would be incrementally less. Cumulative impacts on intersections within the City's Sphere of Influence would remain significant and unavoidable due to the implementation authority for the mitigation measures being outside the County's jurisdiction. Alternative 3 would have slightly increased traffic impacts compared to the proposed project.

ALTERNATIVE 4: REDUCED DEVELOPMENT

Description of Alternative

The Reduced Development Alternative (Alternative 4) removes four of the most environmentally sensitive sites from the program to minimize the environmental effects of implementing the Housing Element Rezone. The purpose of this alternative is to remove the sites with the most physical constraints to development such that the overall environmental impact of implementing the program is reduced, yet still leaving enough opportunity to for the County to meet the required Regional Housing needs and state law. The sites that have the most physical constraints were removed to decrease impacts on biological resources, cultural resources, traffic, aesthetics, and other issues that would be adversely affected by development.

The following sites would be removed from the project under this alternative:

Site 7: This site is removed because of physical constraints associated with the property. A tributary to Wolf Creek traverses the southeast portion of the site as well as intermittent streams riparian vegetation on other places throughout the site. Potential historic resources were identified at this site. Additionally, as one of the three largest parcels in the cluster of sites along Brunswick Road, it has one of the highest maximum yield of units at 198 units. Removal of these units would reduce the amount of traffic from this cluster of development. Additionally, this site is located adjacent to the recently approved Loma Rica Ranch Project. By removing this site from the program it would provide an additional visual and physical from the future development on the Loma Rica Ranch site.

Site 8: This site has similar physical constraints as those described for Site 7 and has been removed from the program for the same reasons. A tributary to Wolf Creek traverses the site near the center of the property which substantially restricts the amount of area available for development due to wetland protection requirements. Intermittent wetlands also are located along the property frontage of Brunswick Road which would result in potential wetland impacts associated with roadway improvements.

Site 14: This site is removed because of physical constraints on the property. This site contains a well-developed blue oak woodland over approximately 80% of the site which makes avoidance difficult. The project site is located on a hillside which would require grading with manufactured slopes that would be visible from SR 49.

Site 17: This site is removed because of the physical constraints associated with developing the property. The site is bisected by Ragsdale Creek and has a wide riparian zone associated with the creek that would make avoidance difficult. The site also contains sensitive black oak dominated woodland outside the riparian zone. Ragsdale Creek is potential habitat for sensitive aquatic species.

Table 6-5 shows the maximum number of units for the Reduced Development Alternative with Sites 7, 13, 14, and 17 removed. As shown in the table, the project would reduce the

total acreage of properties in the program by 27.69 acres or 19%. The maximum number of units would be reduced by 519 units or 20%.

Table 6-5
Theoretical Yield of the Reduced Development Alternative

Site	1	2	3	4	5	6	7*	8*	9	10	11	12	13	14*	15	16	17*	18	TOTAL ¹
Parcel Area (Acres)	1.08	11.36	9.15	11.35	4.5	9.7			6.49	5.95	3.1	4.37	20.1		5.0	18.12		11.03	121.30
Building Density (du/acres)	20	20	20	20	20	20			20	16	16	16	16		16	16		16	-
Maximum Yield (Units)	22	227	183	227	90	194			130	95	50	70	322		80	290		176	2,156

*These sites are removed from the Reduced Development Alternative

¹ For comparison, the proposed project is 148.99 acres and 2,675 units.

Environmental Impacts Compared to the Project

Land Use and Planning

Under Alternative 4, the type and distribution of land uses would be similar to the proposed project, though this alternative would provide fewer residential units, but similar conflicts with the Grass Valley General Plan that occur with the proposed project would remain under Alternative 4. Neither the proposed project nor Alternative 4 would physically divide any existing communities within the County of Nevada or the City of Grass Valley SOI or Planning Area. Each alternative would propose new land use designations for the project area. As a result, Alternative 4 would have the same impacts as the proposed project.

Aesthetics

Residential development would be reduced by approximately 19 percent in the proposed RH Combining District area under Alternative 4. Both Alternative 4 and the proposed project would result in temporary increases in light and glare, as well as temporary impacts on scenic views and visual quality during construction. Construction-related visual quality impacts would be mitigated in the same manner under each scenario.

Alternative 4 would remove sites that would be most visible from major public thoroughfares such as Sites 7 and 8 (Brunswick Road), Site 14 (SR 49), and Site 17 (Combie Road). For the remaining sites, the potential aesthetic impacts of new development would be mitigated in the same manner as the proposed project (adherence to County and City regulations and design guideline requirements). For these reasons, impacts associated with Alternative 4 would be reduced compared to the proposed project.

Air Quality and Greenhouse Gas

Alternative 4 would result in less residential development compared to the proposed project. The reduced number of units would result in fewer vehicle trips compared to the proposed project. Both Alternative 4 and the proposed project would be expected to contribute to pollutants for which the area is in non-attainment and would, therefore, conflict with applicable air quality management plans and result in cumulatively considerable impacts on air quality. In addition, both Alternative 4 and the proposed project in combination with other projects would cumulatively contribute GHG emissions in amounts that could hinder

the state’s ability to achieve AB 32 goals. However, overall Alternative 4 would result in reduced air quality and greenhouse gas impacts compared to the proposed project.

Biological Resources

Alternative 4 would result in development that would reduce potential impacts on biological resources compared to the proposed projects. The four sites that have been removed under Alternative 4 support sensitive biological resources such as wetlands, oak woodlands, and riparian habitat on all or significant portion of the site. Table 6-6 provides a comparison of the impacts to plant communities. This alternative would eliminate impacts to Blue Oak Woodland habitat. For the remainder of the sites in this alternative, mitigation addressing biological resources required for the proposed project would also be implemented under Alternative 4 and it would likely have similar guidance and direction. For these reasons, Alternative 4 would have reduced biological impacts compared to the proposed project.

**Table 6-6
 Potential Impacts to Plant Communities
 for the Reduced Development Alternative**

Site	Annual Grassland (Acres)	Valley Oak Woodland (Acres)	Blue Oak Woodland (Acres)	Montane Hardwood (Acres)	Sierran Mixed Conifer (Acres)	Foothill Riparian (Acres)	Mixed Chaparral (Acres)	Blue Oak-Foothill Pine (Acres)
1	-	-	-	-	-	-	-	-
2	-	-	-	5.78	8.11	-	-	-
3	-	-	-	.03	8.01	0.07	-	-
4	-	-	-	-	11.48	-	-	-
5	-	-	-	-	5.62	-	-	-
6	-	-	-	-	10.06	-	-	-
7	-	-	-	-	0	0	-	-
8	-	-	-	-	0	0	-	-
9	-	-	-	-	4.85	-	-	-
10	4.18	-	-	-	-	-	-	-
11	2.31	-	-	-	-	-	-	-
12	2.82	-	-	-	-	-	-	-
13	7.33	2.97	-	-	1.29	-	-	-
14	-	-	0	-	-	-	-	-
15	-	-	-	3.86	-	-	-	-
16	-	-	-	5.25	-	-	1.68	11.93
17	-	-	-	0	-	0	-	-
18	-	-	-	4.82	3.80	-	-	-
Total	9.31	2.97	0	14.93	51.93	0.07	1.68	11.93
Proposed Project	16.64	2.97	1.27	14.93	61.12	0.74	1.68	11.93

Cultural Resources

Under Alternative 4, the development footprint would be reduced compared to that of the proposed project. Impacts on potential historical and prehistoric resources on Sites 7 and 8 would be avoided under this alternative. For the remaining sites, potential impacts on cultural resources and mitigation necessary to reduce impacts to less than significant would be comparable. For these reasons, potential cultural resource impacts associated with Alternative 4 would be reduced compared to the proposed project.

Geology and Soils

Alternative 4 would result in approximately 28 fewer acres of development compared to the proposed project. Overall, up to approximately 519 fewer units would be in the project area under Alternative 4. When compared to the proposed project, fewer people would be exposed to seismic and unstable soil hazards under the Alternative 4. Regardless, current federal, state and local regulations require specific mitigations to reduce impacts related to geologic and seismic hazards, which would apply to both Alternative 4 and the proposed project. Additionally, each scenario would require site-specific measures on a project-by-project basis to reduce potential seismic and geologic hazard impacts to less than significant. Thus, Alternative 4 would result in a slight improvement compared to the proposed project.

Hazards and Hazardous Materials

Since Alternative 4 would result in fewer people in the project area, it would have the potential to expose less people to risks associated with hazards and hazardous materials. With the removal of Sites 7 and 8, fewer people would be living within Zone D of the Nevada County Airport Land Use Compatibility Plan area. Federal, state and local regulations would mitigate potential hazards and hazardous materials impacts under Alternative 4 in the same manner they would under the proposed project. For these reasons, Alternative 4 would result in a slight reduction compared to the proposed project.

Hydrology and Water Quality

Compared to the proposed project, Alternative 4 would result in less multi-family residential development. Both would substantially increase impermeable surfaces, which could result in an increased risk of flooding, stormwater contamination and degradation of water quality in receiving water bodies. Applicable state and local regulations protecting against flooding and hydrologic impacts would apply under Alternative 4. In addition, site-specific measures would be required on a project-by-project basis to address flooding and other hydrologic impacts. For these reasons, Alternative 4 would be slightly less compared to the proposed project as a result of less building area.

Noise

Under Alternative 4, there would be up to approximately 519 fewer homes. Neither Alternative 4 nor the proposed project would exceed established noise standards as a result of traffic increases, and mitigation would be required for each to prevent potential noise impacts on any sensitive uses should they be proposed along specific roadways. Like the project, Alternative 4 would be subject to County and City policies and regulations regarding construction noise, and mitigation for construction noise and ground-borne vibration would be required to reduce impacts to less than significant. Furthermore, both Alternative 4 and the proposed project would be required to mitigate potential stationary mechanical noise impacts to less than significant. Therefore, Alternative 4 would have the same impact as the proposed project.

Population and Housing

Alternative 4 would result in up to approximately 519 fewer homes compared to the proposed project and would be within the growth estimates identified in the County General Plan and, like the proposed project, would exceed estimates the City's 2020 General Plan because of the higher densities proposed on the sites within the City's Sphere of Influence. However, the

population growth within the City of Grass Valley would be incrementally less because two of the sites that are removed from this Alternative are within the City's Sphere of Influence. Like the proposed project, Alternative 4 would not displace existing housing or people. Therefore, Alternative 4 would be equivalent compared to the proposed project.

Public Services, Utilities and Service Systems

Population growth associated with Alternative 4 would have less demand for fire and police services, libraries, schools and parks and recreational services when compared to the proposed project. Similar to the proposed project, mitigation measures to reduce potential utility impacts associated with the water and sewer demand increases would be required, but would still be considered significant and unavoidable, due to the unknown capacities at the time development of the sites would occur. As a result, Alternative 4 would have a reduced impact compared to the proposed project.

Recreation

When compared to the proposed project, Alternative 4 would result in approximately 519 fewer units. Accordingly, the decrease in population would decrease the demand for park and recreational facilities. Therefore, Alternative 4 would have a slight improvement over the proposed project.

Transportation/Traffic

Under Alternative 4, there would be less development by up to 519 units. Thus, there would be fewer daily vehicle trips associated with new housing. Daily vehicle trips would decrease under Alternative 4 when compared to the proposed project. Under the proposed project there would be significant unavoidable cumulative traffic impacts at the Brunswick Road/SR 49, Brunswick Road/Town Talk, and SR 49/Combie Road intersections. Under Alternative 4 there would be a reduction in traffic volumes at these intersections because Sites 7, 8, 14, and 17 have been removed from the project and would no longer contribute to these failing intersections. Additionally, there would be less cumulative potential safety risk associated with the Brunswick Road/Town Talk intersection because Sites 7 and 8 would no longer contribute to traffic to the intersection. Consequently, Alternative 4 would have a reduced impact compared to the proposed project, however mitigation requirements within the jurisdiction of the City of Grass Valley would remain significant and unavoidable.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 6-7, *Comparison of Alternative Project Impacts to the Proposed Project*, compares each alternative to the proposed project according to whether it would have a mitigating or adverse effect for each of the environmental resource areas analyzed under each alternative above.

Table 6-7
Comparison of Alternative Project Impacts to the Proposed Project

Topic	Alternative 1 No Project/ Future Development Under Existing Nevada County General Plan	Alternative 2 East Bennett Road Sites	Alternative 3 Berriman Ranch Sites	Alternative 4 Reduced Development
Land Use and Planning	--	+	=	=
Aesthetics	--	--	=	--
Air Quality and Greenhouse Gas	--	=	=	--
Biological Resources	--	=	+	--
Cultural Resources	--	=	=	--
Geology and Soils	--	--	=	--
Hazards and Hazardous Materials	--	=	-	--
Hydrology and Water Quality	--	=	=	--
Noise	--	--	=	=
Population and Housing	--	=	=	=
Public Services, Utilities and Service Systems	--	=	=	--
Recreation	--	=	=	--
Transportation/Traffic	--	--	+	--

Notes:

- Reduced impact compared to the proposed project.
- + Increased impact compared to the proposed project.
- = Same or similar impact as proposed project.

CEQA requires the identification of the environmentally superior alternative in an EIR, which is an alternative that would result in the fewest or least significant environmental impacts. If the "No Project" Alternative is the environmentally superior alternative, *CEQA Guidelines* Section 15126.6 (e) (2) requires that another alternative that could feasibly attain most of the project's basic objectives be chosen as the environmentally superior alternative. Based on the above analysis, summarized in Table 6-7, the environmentally superior alternative is the Reduced Development Alternative. The majority of impacts would be reduced compared to those identified for the proposed project. Specifically, impacts associated with land use and planning; aesthetics; air quality; biological resources; cultural resources; hydrology and water quality; noise; public services, utilities and service systems; and transportation/traffic would be reduced under the Reduced Development Alternative.

The Reduced Development Alternative would be able to satisfy a majority of the project objectives as well as provide the County with enough area to meeting the Regional Housing Needs requirements and satisfy state law for providing adequate multi-family housing development opportunities.

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7.0 OTHER CEQA CONSIDERATIONS

Section 15126 of the *CEQA Guidelines* requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the DEIR includes the following issues:

- a. Growth-inducing impacts of the project (addressed in Section 5.0);
- b. Environmental effects of the project found not to be significant through the scoping process, or through further evaluation in the DEIR (addressed below in Section 7.1);
- c. Significant irreversible environmental effects that would be involved in the project should it be implemented (addressed below in Section 7.2); and,
- d. Significant environmental effects that cannot be avoided if the project is implemented (addressed below in Section 7.3).

7.1 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the *CEQA Guidelines* requires that an EIR “contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.”

As described in Section 1.3.2 (Public Review and Scoping Meeting), Nevada County has engaged the public in the preparation of the environmental document through publication of the NOP and subsequent public review period and scoping meeting to allow for input from the public, affected agencies, and interested organizations. Comments received during the public scoping period have been considered in the process of identifying issue areas that should receive attention in the DEIR. The contents of this DEIR were prepared in accordance with the *CEQA Guidelines* and with consideration for public and agency input received during the scoping process. Issues that were found to have no impact or less-than-significant impacts do not need to be addressed further in this DEIR. Based on the findings of the NOP and the results of the scoping process, a determination was made that the DEIR must contain a comprehensive analysis of all environmental issues identified in Appendix G of the *CEQA Guidelines*, with exception of the following:

- **Agricultural Resources:** As none of the proposed project sites are located on lands containing agricultural uses, adjacent to agricultural uses, or zoned on either the County’s or City’s General Plan or Zoning Land Use Maps, this environmental resource area is not applicable to the proposed project, and therefore, was not further discussed in detail in the DEIR.
- **Minerals:** The DEIR provides an evaluation of potential impacts with regard to minerals. As noted Section 4.2 (Land Use), per the Mineral Management Element of the City of Grass Valley 2020 General Plan, Sites 1 through 9 are located in a Mineral Management Area. All Mineral Management Areas within the City and its Planning Area are classified as MRZ-2. This classification identifies areas that contain potentially significant mining deposits that are either present or have a high likelihood of being present. However, according to the Mineral Management Element, none of the sites in the Grass Valley Sphere of Influence are within an area targeted by the City for conservation and possible future mineral extraction. Through this

analysis, no significant impacts were identified, and no mitigation measures were required. Therefore, minerals were not further discussed in detail in the DEIR.

After further study and environmental review in this DEIR, direct, indirect, and cumulative impacts of the proposed project would be less than significant or could be reduced to less-than-significant levels with mitigation measures for the following issue areas:

- Aesthetics;
- Cultural Resources;
- Biological Resources;
- Traffic;
- Geology and Soils;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Noise;
- Population and Housing;
- Public Services;
- Land Use; and,
- Recreation

7.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15162(b) of the *CEQA Guidelines* requires an EIR to discuss the significant impacts of a proposed project that cannot be reduced to a less than significant level. These impacts are referred to as “significant and unavoidable impacts” of the project.

7.2.1 LAND USE AND PLANNING

As described in Section 4.2 (Land Use and Planning), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project site.

As the proposed project proposes densities of multi-family high-density residential developments of 16 to 20 units per acre, the proposed project is inconsistent with the current City of Grass Valley 2020 General Plan Land Use Map designation for the Sites 1 through 9. Conflicts with the existing Grass Valley General Plan would be considered significant. Although mitigation is included that would require the County and City of Grass Valley to develop an agreement to address proposed density changes, the conflicts would remain until there was a change in the Grass Valley General Plan. Acceptance of an agreement by the City of Grass Valley or a change in the City’s General Plan is outside the jurisdiction of the County and potential conflicts would remain significant and unavoidable.

7.2.2 AIR QUALITY

As described in Section 4.4 (Air Quality), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Exceedance of standards for fugitive dust, reactive organic gases (ROG) and exhaust during construction activities.

Despite compliance with mitigation measures, emissions associated with fugitive dust, ROG and exhaust during construction of the proposed project would exceed Northern Sierra Air Quality Management District (NSAQMD) thresholds. Thus, the project would result in a significant and unavoidable impact.

- Total operational air emissions.

Mobile source emissions generated by vehicle traffic associated with the proposed project and area source emissions would exceed established NSAQMD thresholds. Although mitigation is included that incorporates appropriate NSAQMD recommendations to reduce emissions, the impact would remain significant and unavoidable.

- Inconsistent with Air Quality Management Plan.

The proposed project would result in significant air quality impacts and would, therefore, conflict with the applicable air quality management plan. The significant air quality impacts could contribute to a pollutant for which the area is in non-attainment. Despite mitigation, this impact would remain significant and unavoidable.

7.2.3 GREENHOUSE GAS EMISSIONS

As described in Section 4.5 (Greenhouse Gas Emissions), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Cumulative contribution of greenhouse gas (GHG) emissions to global climate change.

The GHG analysis of this project assumed that each of the proposed sites would be developed at its maximum density as allowed under the new zoning. This approach was taken to provide a conservative analysis as it is likely that the number of total units will be less than the allowed maximum once factors such as Environmentally Sensitive Areas and other physical site constraints, water and wastewater infrastructure improvements, and traffic improvements are considered. Thus, at this stage of analysis, GHG impacts associated with implementation of the Housing Element Rezone would be significant and unavoidable.

7.2.4 POPULATION AND HOUSING

As described in Section 4.12 (Population and Housing), future development within the proposed project sites would result in the following significant and unavoidable impacts:

- Would directly induce population growth in the City of Grass Valley.

The proposed project's estimated contribution of 2,960 residents located within the City's Sphere of Influence would represent approximately 28 percent of the City's anticipated population growth and would occur over a 10- to 20-year timeframe. However, the proposed densities for the project sites within the City's Sphere of Influence area are higher than what is considered in the City's current General Plan. As such, the project would induce growth within the City upon annexation of the properties into the City of Grass Valley. No feasible mitigation measures have been identified. The County of Nevada does not have land use

authority over the City of Grass Valley to amend or alter the City's existing planning policies or the existing General Plan. Potential impacts as a result of population growth would be significant and unavoidable.

7.2.5 PUBLIC SERVICES AND UTILITIES

As described in Section 4.13 (Public Services and Utilities), future development within the proposed project sites would result in the following direct and cumulative significant and unavoidable impacts:

- The Proposed Project could result in a determination by the wastewater treatment provider that it has inadequate capacity to provide for the project's projected demand in addition to the provider's existing commitments.

The County has established sewer capacity service requirements for development within its jurisdiction. Without proposed improvements to existing WWTPs there would not be sewer service available for the proposed project Sites 10 through 18 and the proposed project would result in potentially significant impact.

The City's WWTP will need to be enlarged to handle future flows from throughout the City's system to meet the City's projected population in the Year 2020. The City has established sewer capacity service requirements for development within their jurisdiction. Without proposed improvements to the City's existing WWTP there would not be sewer service available for the proposed project sites and the proposed project would result in potentially significant impact.

Mitigation has been identified that would reduce potential impacts to less than significant; however, this impact remains significant and unavoidable because it is unknown what the capacity of the wastewater treatment facilities would be at the time of project construction. It is also unknown if completion of the required wastewater facility improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.

- Sufficient water supplies are available to serve the Proposed Project from existing entitlements and resources; no new or expanded entitlements would be required.

Development of Sites 2, and 10 through 18 would require new water infrastructure improvements to bring potable water to these sites. Water line extensions would be within existing roadways or right of ways. These improvements would have to be in place prior to construction on each of these sites. With unknown timing or enforcement mechanism for these improvements, a potentially significant impact would occur as a result of insufficient infrastructure.

Mitigation has been identified that would reduce potential impacts to less than significant; however, this impact remains significant and unavoidable because it is unknown what the capacity of the potable water facilities would be at the time of project construction. It is also unknown if completion of the required water infrastructure improvements would be feasible for a single project developer. Furthermore, the County does not have jurisdiction over the timing of when wastewater improvements would occur within the City of Grass Valley.

7.2.6 TRAFFIC AND CIRCULATION

As described in Section 4.15 (Traffic and Circulation), future development within the proposed project sites would result in the following direct and cumulative significant and unavoidable impacts:

- Project would add traffic to the intersection of Idaho-Maryland road and Brunswick Road. This intersection is projected to operate at LOS F (unacceptable) in the pm peak hour.

To mitigate direct traffic impacts on the Idaho-Maryland Road and Brunswick Road intersection, a new roundabout is required at this intersection. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the roundabout in its entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement. Therefore, the impact remains significant and unavoidable.

- Project would add traffic to the intersection of La Barr Meadows Drive and McKnight Way. This intersection is projected to operate at LOS F on the worst approach (unacceptable) in the pm peak hour.

To mitigate direct impacts at the La Barr Meadows and McKnight Way intersection dual roundabouts would be required to be constructed. However, the County of Nevada does not control the timing or implementation of construction because the intersection is within the jurisdiction of the City of Grass Valley. Additionally, it is not known whether it is feasible for one project applicant to construct the required dual roundabouts in their entirety as part of a single development project. Therefore, the developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the construction cost of this future intersection improvement.

- Project would add traffic to the intersection of Brunswick Road and Triple Crown Road (Sites 3-6, and 9 access road). This intersection is projected to operate at an overall LOS E and LOS F on the worst approach (unacceptable) in the pm peak hour.

The project developer shall install or fund the realignment of Triple Crown Road with Town Talk Road into one intersection and the installation of a traffic signal will improve intersections of Brunswick Road and Triple Crown Drive and Brunswick Road and Town Talk Road / Bubbling Wells Road to LOS B during the PM peak hour. While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

- Cumulative Impact - The Proposed Project would add traffic to the signalized intersection of Nevada City Highway and Brunswick Road. This intersection is projected to operate at LOS E (unacceptable) in the PM peak hour.

The project developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the installation of signal timing at the intersection of Nevada City Highway and Brunswick Road to improve operations and meet future traffic volume demand. While the proposed fair share

contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

- Cumulative Impact - The proposed project would add traffic to the intersection of Brunswick road and Town Talk Road (Sites 7 and 8 access road). This intersection is projected to operate at an overall LOS E and LOS F at the worst approach (unacceptable) in the pm peak hour.

The realignment of Triple Crown Road with Town Talk Road (Sites 7 and 8 access) into one intersection and the installation of a traffic signal will improve intersections of Brunswick Road / Triple Crown Drive and Brunswick Road / Town Talk Road / Bubbling Wells Road to LOS C during the PM peak hour. The intersection does meet peak hour Caltrans peak hour signal warrant for the installation of a traffic signal. The proposed mitigation includes one additional southbound right turn lane, one southbound left turn lane, one northbound left turn lane and one northbound right turn lane. While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

- Cumulative Impact –Project would add traffic to the intersection of SR 49 northbound ramps and McKnight Way. This intersection is projected to operate at overall LOS E (unacceptable) in the PM Peak Hour.

Prior to the development of the project site, the Project Developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program for the provision of the dual roundabouts on McKnight Way at the SR 49 interchange. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

7.3 SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(c) of the *CEQA Guidelines* requires an EIR to discuss the significant irreversible environmental changes that would result from implementation of a proposed project. Examples include: uses of nonrenewable resources during the initial and continued phases of the project (because a large commitment of such resources make removal or nonuse thereafter unlikely); primary or secondary impacts of the project that would generally commit future generations to similar uses (e.g., highway improvements that would provide access to a previously inaccessible area); and/or irreversible damage that could result from any potential environmental accidents associated with the project.

Future development within the proposed project areas would require the long-term commitment of natural resources and land. Actions related to future development would result in an irretrievable commitment of nonrenewable resources, such as energy supplies and other construction-related resources. These energy resources would be used for construction, heating and refrigeration of food and water, lighting, and other associated energy needs.

Insofar as fossil fuels currently are the principal source of energy, future development in the proposed project areas would incrementally reduce existing supplies of fuel, such as fuel oil,

natural gas and gasoline. This represents a long-term commitment to consumption of essentially nonrenewable resources.

Development anticipated within the proposed project areas, together with other projects in the County and City, would require the commitment or destruction of other nonrenewable and slowly renewable resources. These resources include (but are not limited to) lumber and other forested products; sand and gravel; asphalt; petrochemical construction materials; steel, copper, lead, other metals; and water. A marginal increase in the commitment of social services and public maintenance services (e.g., waste disposal and treatment) would also be required.

As described previously, the parcels within the proposed project areas are currently undeveloped with the exception of a few scattered structures. Construction on these parcels that are currently undeveloped would result in a long-term commitment to urbanization because reversion of the land back to vacant land use would be difficult and highly unlikely.

The development of high-density residential units adjacent to mixed-uses makes it more efficient than a traditional development that would likely occur under the project area's current General Plan land use designations and would set a standard that would strengthen the character of the County and City.

It is not anticipated that explosives or other hazardous materials would be used within the project area. Accidental spills of fuel, paints or other construction-related materials might occur during construction. However, these types of accidents would be limited because site development would be implemented and overseen by experienced construction workers. Such potential spills would not result in irreversible environmental changes.

7.4 ENERGY CONSERVATION

Public Resources Code Section 21100(b)(3) and *CEQA Guidelines* Appendix F requires a description (where relevant) of the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, the California State Legislature adopted Assembly Bill 1575 (AB 1575) in response to the oil crisis of the 1970s.

7.4.1 PROJECT ENERGY CONSUMPTION

SHORT-TERM CONSTRUCTION

In 1994, the U.S. Environmental Protection Agency (EPA) adopted the first set of emission standards (Tier 1) for all new off-road diesel engines greater than 37 kilowatts (kW). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing NO_x emissions from these engines by 30 percent. The EPA Tier 2 and Tier 3 standards for off-road diesel engines are projected to further reduce emissions by 60 percent for NO_x and 40 percent for particulate matter from Tier 1 emission levels. In 2004, the EPA issued the Clean Air Nonroad Diesel Rule which will cut emissions from off-road diesel engines by more than 90 percent.

The Housing Element Rezone Implementation Program would not directly result in the construction of any new development projects. However, its implementation would facilitate development of various residential uses. There are no unusual characteristics of the Housing Element Rezone Implementation Program that would necessitate the use of construction equipment that is less energy-efficient than at comparable construction sites. Therefore,

compliance with the Nevada County General Plan goals and policies would ensure the project would not result in inefficient, wasteful, or unnecessary fuel consumption.

LONG-TERM OPERATIONS

Transportation

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NHTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). The fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg since 1996. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

The Housing Element Rezone Implementation Program would be consistent with Nevada County General Plan Goals and Policies that intend to reduce vehicle trips. For example, implementation of the Housing Element Rezone contemplates the development of additional dwelling units, and General Plan Policy RD-4.3.3 promotes smart land use patterns to reduce the need to commute by providing for an adequate amount of residential, commercial, and industrial designations in proper balance, which inherently results in reduced vehicle trips. General Plan Goals RD-4.1 through RD-4.4 would reduce dependence on the automobile, decrease vehicle miles traveled while encouraging transit ridership and vehicle occupancy, and encourage land use patterns that promote the use of alternative transportation. General Plan Policy 14.7 requires the County to cooperate with all appropriate agencies and other regional transportation agencies that include surrounding counties to develop programs designed to maximize the participation of employers in employer-operated van pool and/or ride sharing for employees, and mass transit service for both employees and customers.

The Housing Element Rezone Implementation Program is not anticipated to result in any unusual characteristics that would result in excessive long-term operational fuel consumption. Additionally, the General Plan provides strategies to improve transit service and overall mobility within the County that would result in a decrease in auto dependency. Future development under the Housing Element Rezone Implementation Program would increase density, which would increase public transportation patronage. The availability of public transit for County residents, employees, and visitors would ensure that the project would not result in the inefficient, wasteful, or unnecessary consumption of transportation energy.

Overall, fuel consumption associated with vehicle trips generated by future development within Nevada County would not be considered inefficient, wasteful, or unnecessary in comparison to other cities in the region.

Energy Demand

California Code of Regulations, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. Title 24 was established by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency

standards for residential and non-residential buildings. In 2010, the CEC updated Title 24 standards with more stringent requirements (California Green Building Standards Code [CALGreen Code]). The 2010 Standards are expected to substantially reduce the growth in electricity and natural gas use. Additional savings result from the application of the Standards on building alterations, such as those within Section V (Site Lighting) including Subpart E (Windows), F (Roofs), and S (Mechanical Equipment). These savings are cumulative, increasing as years go by.

The Housing Element Rezone Implementation Program does not involve any unusual characteristics that would result in excessive long-term operational building energy demand. The Housing Element Rezone Implementation Program would be consistent with various energy efficiency goals and policies within the General Plan. Namely, it is the County's goal (Goal EC-8.2) to encourage the reduction of GHG Emissions during the design phase of construction projects. To this end, the County would implement the following policies:

- Policy EC-8.6.1 Encourage energy efficient site design in new land divisions, particularly in larger subdivisions and planned developments where there is sufficient area for alternate designs as follows:
- a. Encourage lot patterns that maximize proper solar orientation;
 - b. Utilize interconnected streets and traffic calming features to reduce fuel consumption and encourage walkability;
 - c. Provide adequate on-site usable open space and relate the type, amount and location of open space to the types of households expected to occupy the building;
 - d. Include in the project, or locate project within walking distance to (generally, one-quarter to one-half mile), needed amenities such as storage, laundry, community rooms, recycling, childcare facilities, and convenient shopping facilities.
- Policy EC-8.6.2 Support appropriate neighborhood-serving commercial activities in residential areas that would reduce vehicle miles traveled, such as small pedestrian-oriented grocery stores and childcare centers. The uses should serve the needs of the immediate residential neighborhood and not draw significant trade from outside the neighborhood, not disrupt or detract from the livability of the surrounding neighborhood, and be designed in keeping with the established residential character of the area.
- Policy EC-8.6.3: Promote infill within existing residential neighborhoods and intensify land uses consistent within existing neighborhood or commercial district patterns in developed areas currently served by municipal services.
- Policy EC-8.6.4: In addition to Title 24, Part 6 of the California Code of Regulations, the County shall promote energy efficiency and alternative energy sources for new and rehabilitated housing using incentives and site plan review recommendations, which shall include the following:

- a. Passive solar design to maximize solar energy capture.
- b. Preservation of native trees that provide shade, reduce energy costs, and slow structural deterioration.
- c. Incorporation of adequate deciduous tree cover on the south and west side of dwellings and along streets to help reduce the cooling demand during summer months and capture maximum solar energy in winter.
- d. Maximization of use of daylight and energy-efficient lighting, such as compact fluorescent lighting indoors and LED lighting outdoors.
- e. Energy-Star rated appliances, solar hot water heating systems, and other plumbing, mechanical, electrical, and solar permits issued for systems that either produce energy or save natural resources, such as wind-generated electrical systems, tankless water heaters, and highly efficient heating, ventilation and air conditioning systems.
- f. Water conservation features, including reclamation; landscaping appropriate to the site's climate, soils, and water resources; and water-saving irrigation practices.
- g. Solid waste reduction and recycling.

Policy EC-8.6.5 Continue to strongly support the current housing weatherization programs and Energy Crisis Intervention Program within Nevada County.

Policy EC-8.6.6 Encourage residents and developers to increase energy conservation and efficiency by making improvements to existing housing stock that result in conservation of energy, water, and other natural resources, particularly in renter-occupied units, by offering workshops, individual consultations, education programs, and financial assistance for weatherization and other conservation measures.

Policy EC-8.6.7 The County shall evaluate prescriptive building standards that supplement existing Building Codes for such items as alternative energy systems, building materials, and alternative sewage systems.

Policy EC-8.6.8 Encourage residents and developers to increase energy conservation and improve energy efficiency. Support education programs that promote energy conservation and energy efficiency. Support project developers in incorporating cost-effective energy efficiency that exceeds State standards.

As discussed above, there would not be any inefficient, wasteful, or unnecessary energy usage associated with implementation of the Housing Element Rezone Implementation Program. Compliance with the Goals and Policies within the Nevada County General Plan and the availability of public transit (Gold Country Stage) would ensure that there would not be inefficient, wasteful, or unnecessary consumption of transportation energy. Future development projects under Housing Element Rezone Implementation Program would

adhere to, and exceed, all federal, state, and local requirements for energy efficiency, including Title 24 of the California Code of Regulations regarding building energy efficiency standards. The proposed project would not result in the inefficient, wasteful, or unnecessary consumption of building energy. Therefore, the project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

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9.0 REFERENCES

The following is a list of references used in the preparation of this document. Unless included in the Appendices, copies of all reference reports, memorandums and letters are on file with the County of Nevada. References to publications prepared by federal or state agencies may be found with the agency responsible for providing such information.

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